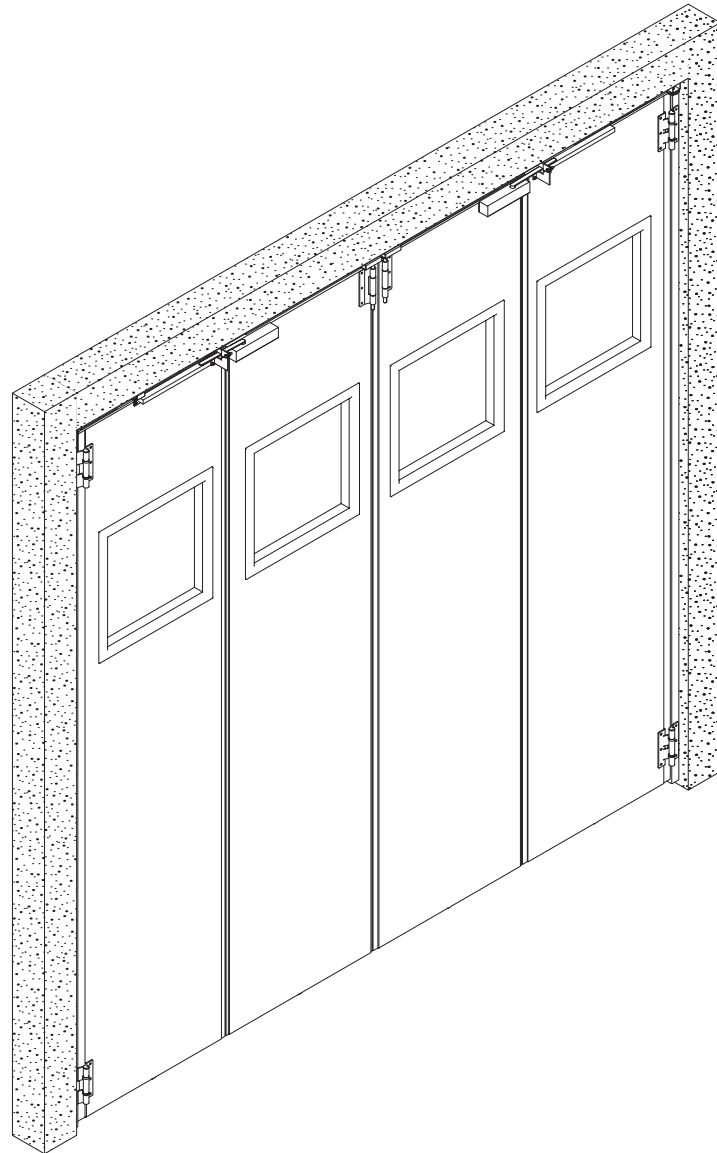


FIRE BRIGADE FOLDING DOORS

Installation, Operating, and Maintenance Manual



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2. Symbol Explanation



Caution! Risk of personal injuries!

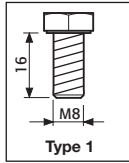
Attention! Risk of material damages!

Note

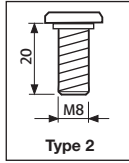
Function check

Reference

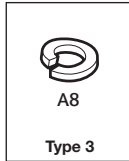
3. Overview of screws



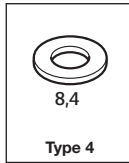
Type 1



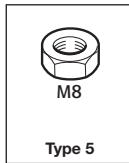
Type 2



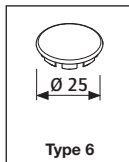
Type 3



Type 4



Type 5



Type 6

4. General Information

4.1 Target group

Installation should only be carried out by fully qualified specialists.

Qualified and trained door installation specialists have

- knowledge of general and special safety and accident prevention regulations
- participated in training courses for the application of safety equipment
- been trained in the safe use of hand and electric tools.

4.2 Warranty

A warranty as regards functioning and safety can only be provided if

- the safety and warning notices have been adhered to
- installation has been carried out correctly and in the order specified in the instructions
- only original Teckentrup accessories have been used
- no additional objects are attached to the door
- the supplied parts have not been adjusted or adapted
- regular door maintenance has been carried out
- the operator has been provided with all the relevant operating instructions (door, drive system and safety equipment).

4.3 General safety instructions

Caution!

- Cordon off the danger zone prior to installation.
- Ensure that people who are not involved with door installation are kept away from the danger zone.
- Installation should only be carried out by fully qualified specialists.
- Installation has to be carried out from a secure position (e.g. scaffolding).
- Supplied drawings take precedence over any other drawings.
- To prevent crushing, the door should only be opened and closed when no-one is located in the door travel area.
- In the event of defects or irregularities, the door must not be used and a fully trained and qualified fitter should come and inspect the door system.



4. General Information

4.4 Installation site requirements

- The door should only be installed in walls which have been tested and are approved for the static loading.

The following types of wall are permissible:

- Masonry in accordance with DIN 1053-1, min. masonry compressive strength class 12 min. masonry mortar group IIa, wall thickness ≥ 175 mm.
- Concrete in accordance with DIN 1045, min. masonry strength class B15, wall thickness ≥ 140 mm.
- Autoclaved aerated concrete blocks and high precision units in accordance with DIN 4165, min. masonry strength class 4.
- Steel construction with static documentation.

The following wall plugs are recommended:

- Masonry: Fischer FUR
- Concrete: Fischer FAZ, Fischer FH-S
- Autoclaved aerated concrete: on request

- The finished floor must be level and horizontal.
- The walls at the opening side have to be aligned.
- The door must not open into public thoroughfares.
- Ensure sufficient drainage in the area in front of the door.
- The door must be mounted to the adjacent constructional elements in a way that satisfies the following requirements:
 - Loads on the opened and closed door are accommodated securely and permanently.
 - Loads which develop due to the door movement are accommodated securely and permanently.
 - The forces should not affect the stability of the adjacent wall.
- Always observe and adhere to local regulations if the door is installed in potentially explosive areas. The operator must inform the fitter of these regulations.
- Earthing work should only be carried out by trained and qualified personnel.
- Make sure there are no installation or electrical wires within or on the wall in the installation area.

4.5 Door installation instructions

- Leave all the components in the packaging until they are required for assembly.
- Depending on the type of door, the door must be installed either within or to the face of the opening.
- Types of mounting not specified in the instructions must be approved by the manufacturer in advance.
- Insofar as no finish is provided, doors which are installed outdoors must be provided with a finishing coat no later than three (3) months after installation.
- The ready-for-use door must satisfy the requirements of EN 12604.

4.6 Door operation instructions

- Never place any objects within the movement range of the door.
- The door must be held in position (locked) when open and closed.
- The door must be either fully open or fully closed, but not be left in an intermediate position.
- The opening and closing of the door leaves is permitted only with the handles provided.
- Fire brigade folding doors must comply with DIN 14092-1. It is not permissible to subsequently convert a conventional, manually or power-operated folding door into a fire brigade folding door.

5. General

5.1 Scope of delivery

- Door pack
- Accessories pack
- Door specific drawing

Refer to the enclosed packing list for details.

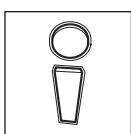
5.2 Illustration and installation methods

The generally accepted illustrations show the installation type in the soffit.
See the door-specific drawing for the installation type and the door opening direction.

Technical details subject to change.

Reference:

See the enclosed installation manual for installation methods that are not described in these instructions.



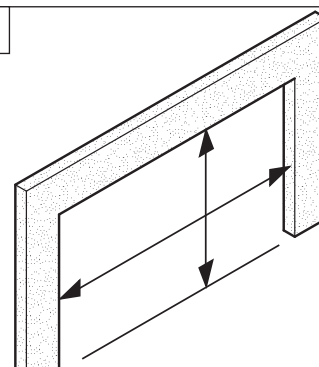
5.3 Dimensional checks

Reference:

Please refer to the order confirmation or the door specific drawing for the order dimensions of the door.

- Compare the order dimensions of the door and the actual structural conditions.

5.3 / 1



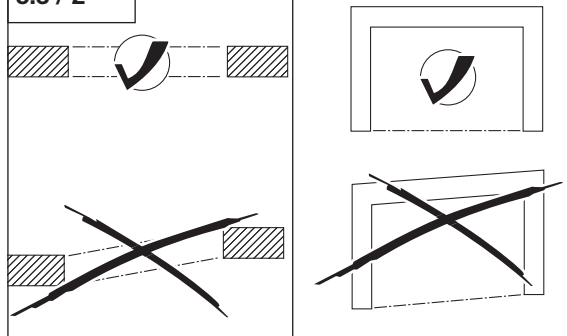
Note:

In order to install the door, the following conditions must be fulfilled:

- The finished floor should be level and horizontal.
- The walls at the opening side must be parallel to one another.
- The wall distances of the opened door must be maintained.

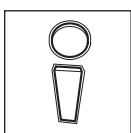
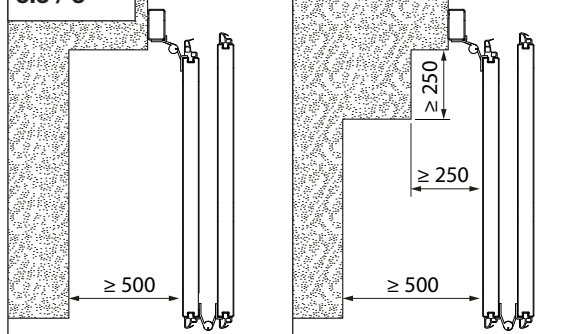
- Check the subsurface.
- Check the wall distances on the opening side.

5.3 / 2



Please consult the manufacturer for permissible maximum deviations prior to assembly.

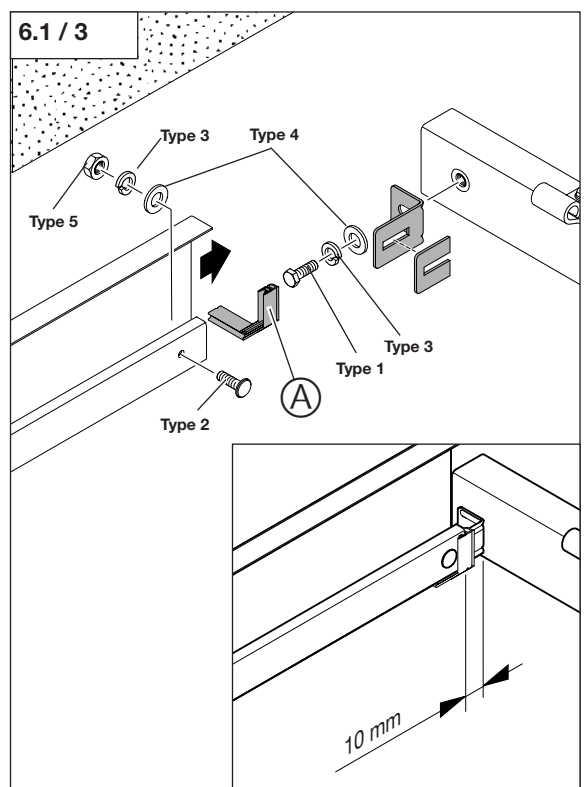
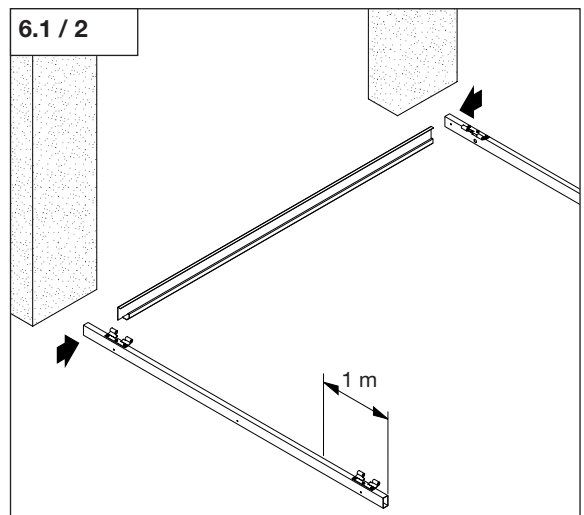
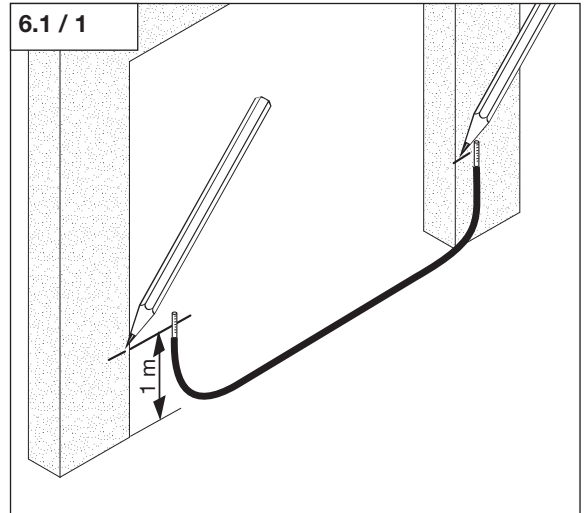
5.3 / 3



6. Installation

6.1 Preparing frame

- Use a pencil to mark the 1 metre level on the assembly side.
- Transfer the 1 metre level to the opposite side.

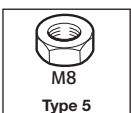
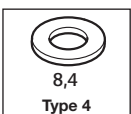
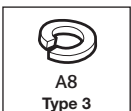
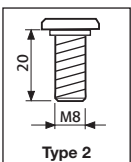
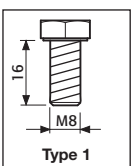


Note:

The frame must be screwed into position as follows:

- The hinges must be aligned correctly.
- To enable subsequent adjustment of the frame, a 10 mm gap must be observed between the side frame element and the upper frame element. The gap must be sealed with the supplied rubber strip (A).

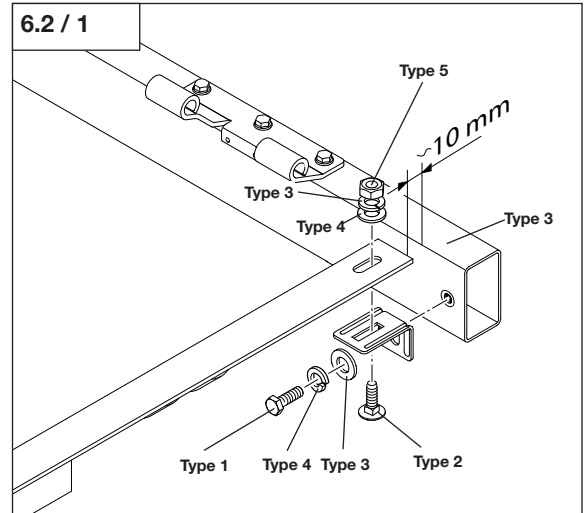
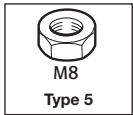
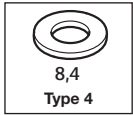
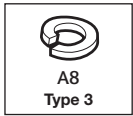
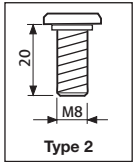
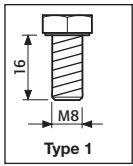
- Lay the frame elements in front of the opening.
- Use a pencil to mark the 1 metre level on the side frames.
- Screw the frame elements together.



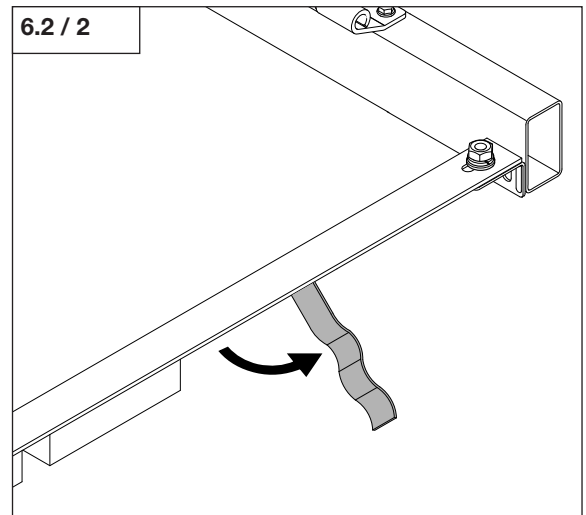
6. Installation

6.2 Installation of bottom buffer (optional)

- Install the brackets.

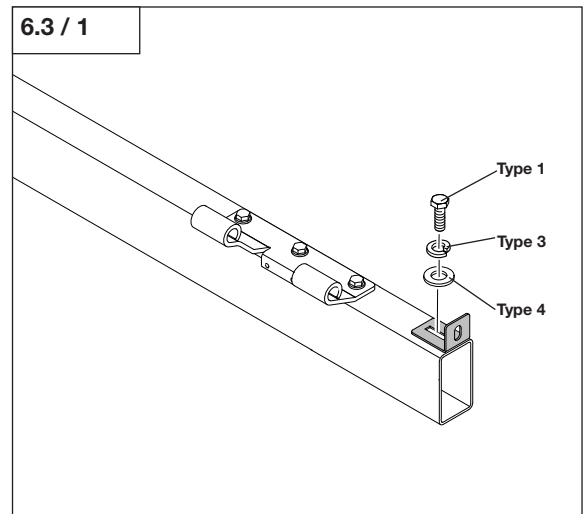
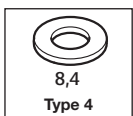
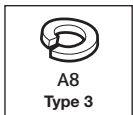
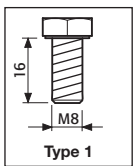


- Pull all installation anchors outwards before setting up.



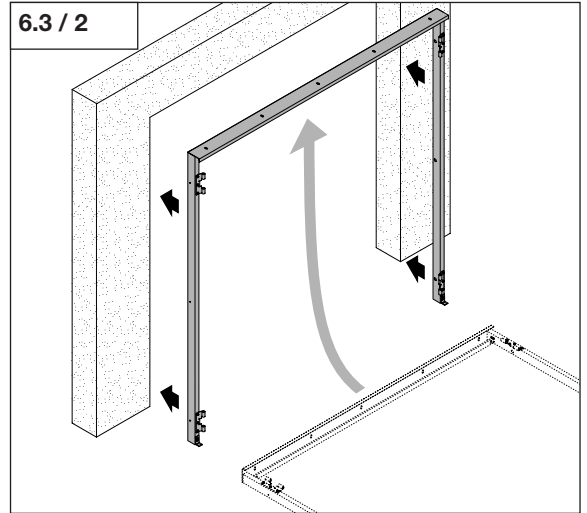
6.3 Frame installation in the soffit

- Install the brackets.



6. Installation

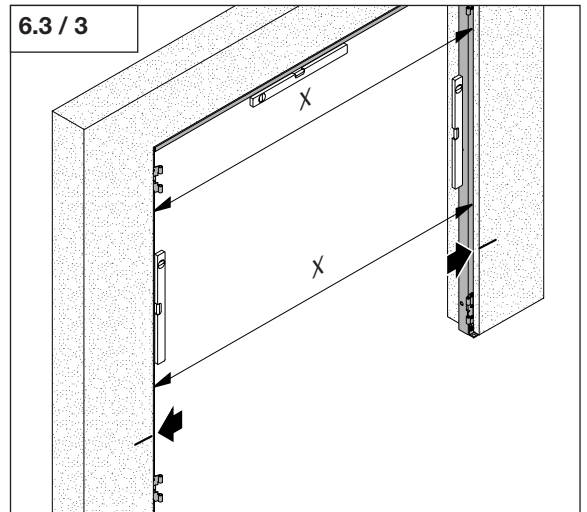
- Stand the frame up.
- Position the frame within the opening.



Attention!

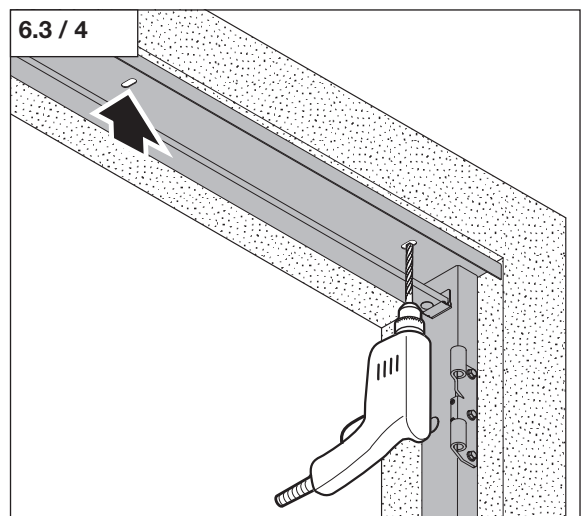
The frame should not be welded into position.

- Align the frame to the middle.
- Align the frame to the 1 metre level.
- Align the frame vertically.
- Fix the frame in the aligned position.
- Check the overall frame dimension (X).



Lintel fixing for door opening outwards

- Drill the fastening holes through the punched holes in the header.



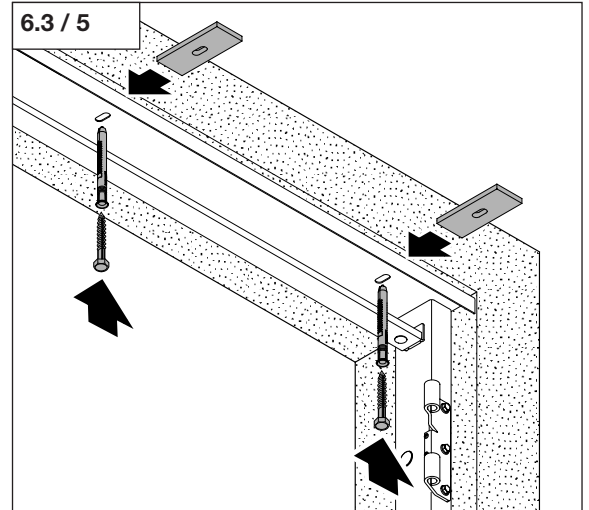
6. Installation



Note:

- The frame should not twist or buckle when tightening the screws.
- Any unevenness or spaces between the header and the frame must be underfilled.
- Doors with strain relief must be levelled out.

- Screw the frame to the header.
- Clean any drilling dust off the frame.



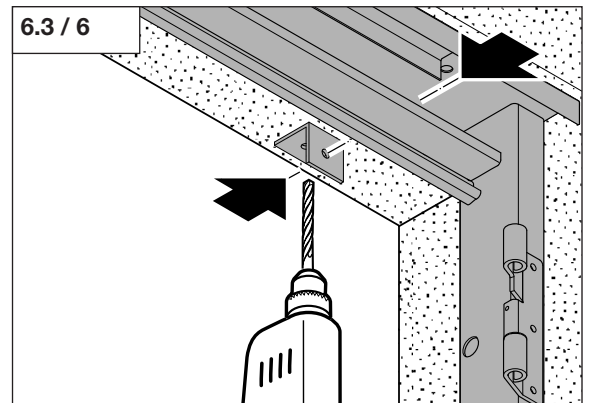
Lintel fixing for door opening inwards



Note:

In order to guarantee the functioning of the mechanical unlocking device, the frame must be screwed onto the lintel with brackets.

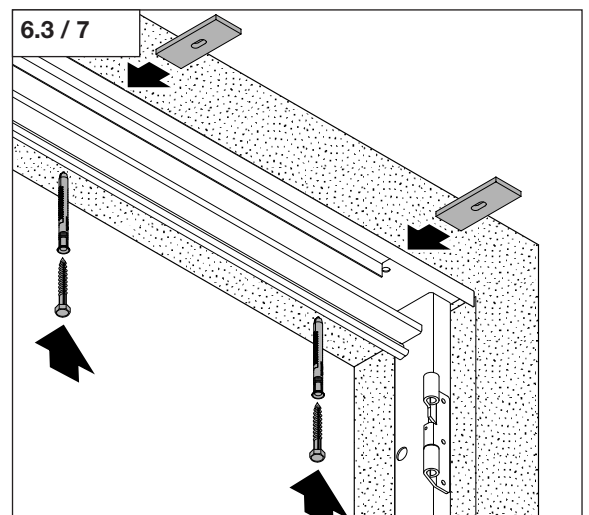
- Screw the lintel brackets to the frame.
- Drill the holes for the fastening through the lintel bracket into the lintel.



Note:

- The frame should not twist or buckle when tightening the screws.
- Any unevenness or spaces between the header and the frame must be underfilled.
- Doors with strain relief must be levelled out.

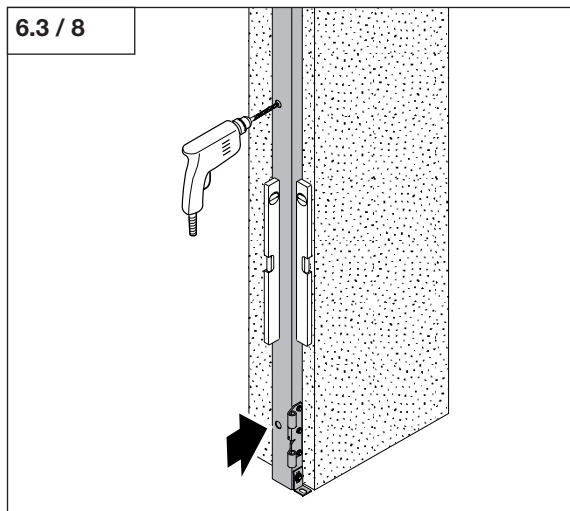
- Screw the frame brackets to the lintel.
- Clean any drilling dust off the frame.



6. Installation

- Drill through all the pre-marked holes of the side frame into the wall.

6.3 / 8

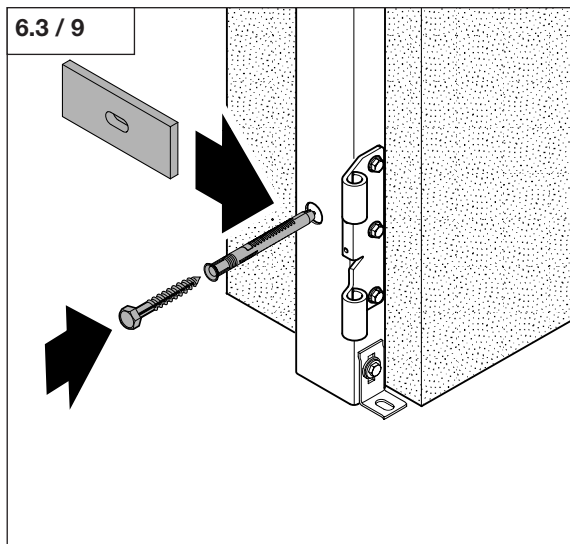


Note:

- The frame should not twist or buckle when tightening the screws.
- Any unevenness or spaces between the header and the frame must be underfilled.

- Screw the side frames to the wall.

6.3 / 9



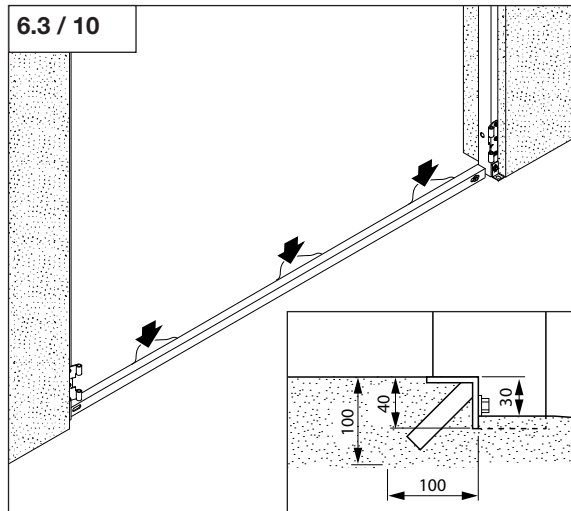
6. Installation

Bottom buffer (optional)

- Fill the bottom buffer.

Note:

The filling must be hardened before carrying out any further work.

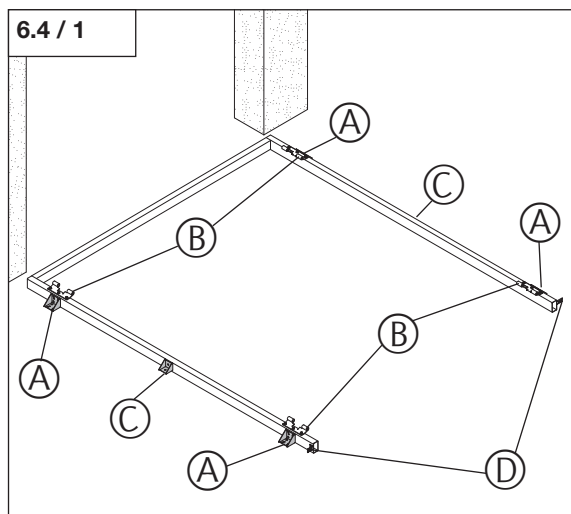


6.4 Frame installation in front of the soffit

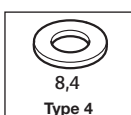
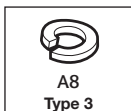
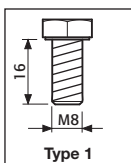
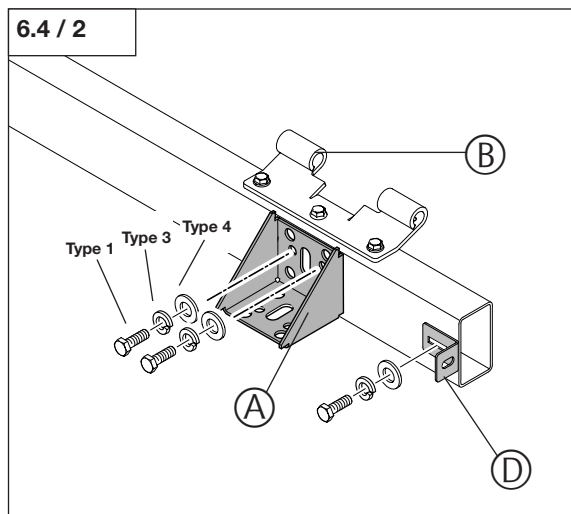
Note:

The brackets must be fixed to the frame as follows:

- The large brackets (A) must be mounted next to the hinges (B).
- The small brackets (C) must be centrally mounted.
- The floor bracket (D) must be mounted on the bottom.

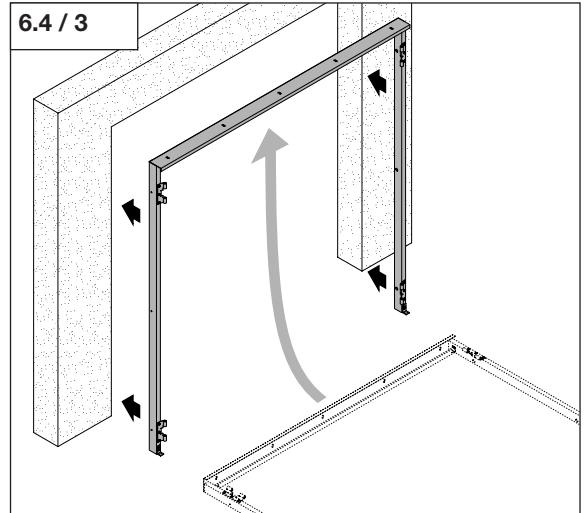


- Install all brackets.



6. Installation

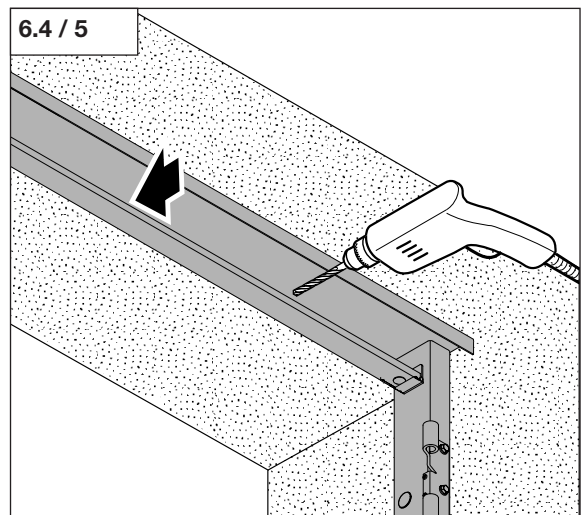
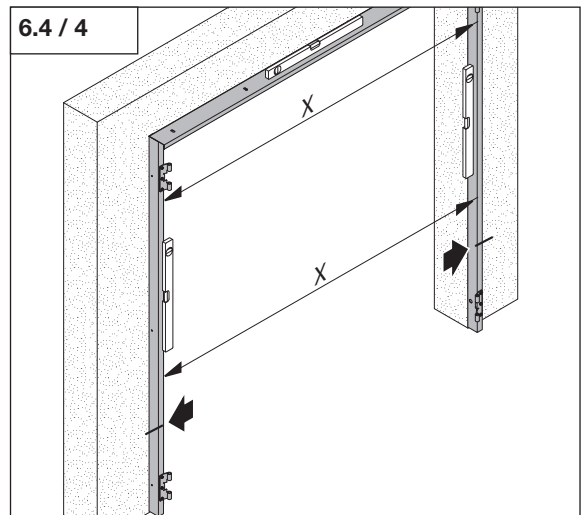
- Stand the frame up.
- Position the frame to the face of the opening.



Attention!

The frame should not be welded into position.

- Align the frame to the middle.
 - Align the frame to the 1 metre level.
 - Align the frame vertically.
 - Fix the frame in the aligned position.
 - Check the overall frame dimension (X).
-
- Drill the fastening holes through the punched holes in the header.



6. Installation

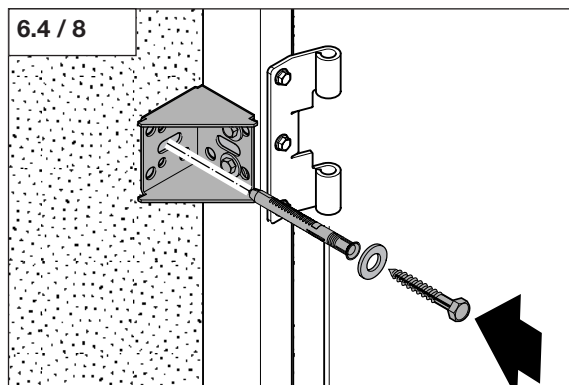
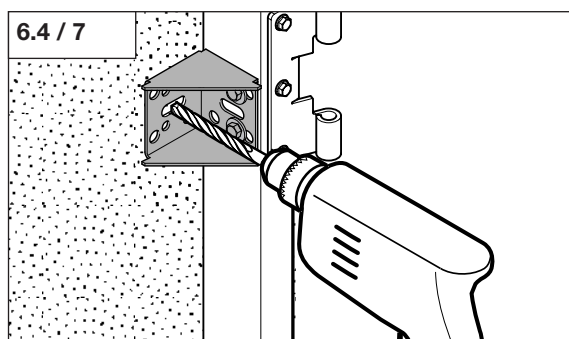
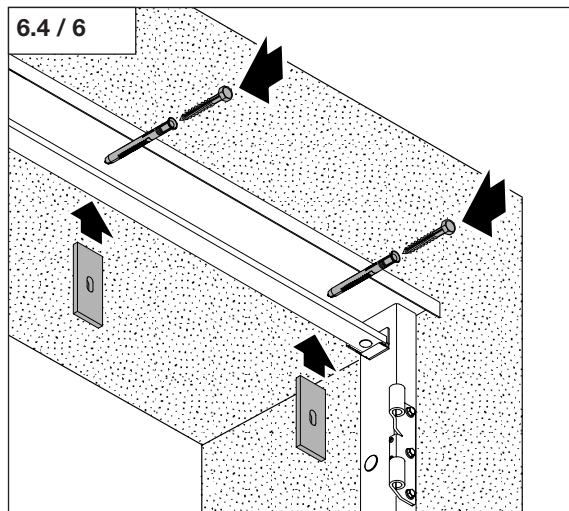


Note:

- The frame should not twist or buckle when tightening the screws.
- Any unevenness or spaces between the header and the frame must be underfilled.
- Doors with strain relief must be levelled out.

- Screw the frame to the header.
- Clean any drilling dust off the frame.

- Drill through the elongated holes of the fastening brackets.



Note:

- The frame should not twist or buckle when tightening the screws.
- Any unevenness or spaces between the header and the frame must be underfilled.

- Screw the side frames with the fixing brackets to the wall.

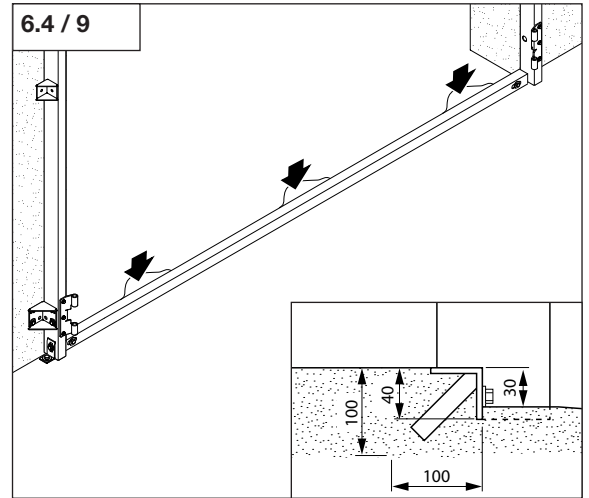
6. Installation

Bottom buffer (optional)

- Fill the bottom buffer.

Note:

The filling must be hardened before carrying out any further work.

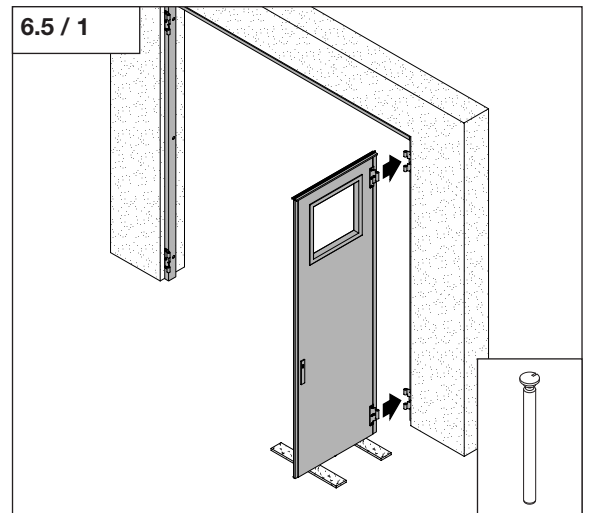


6.5 Assembling the door leaves

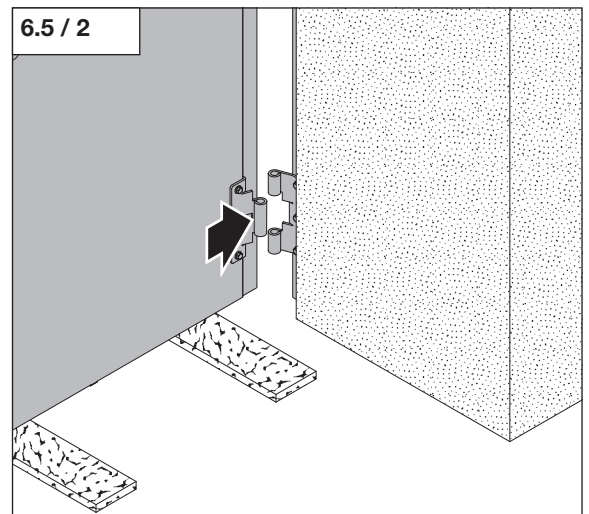
Note:

The following points must be observed for the assembly of the door leaves:

- The door leaves must be carefully removed from the packaging.
- The door leaves must be removed and installed in the specified sequence.
- The door leaves must be placed on wooden blocks.
- To ensure a long service life, the hinges and bolts must be cleaned and lubricated prior to assembly.



- Position the door leaf in the lower hinge.



6. Installation



Note:

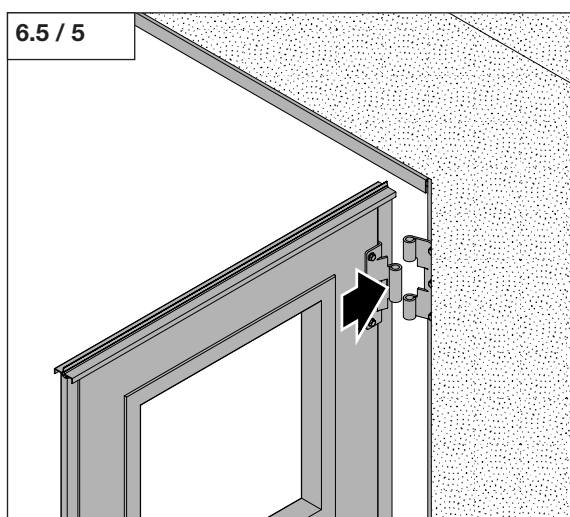
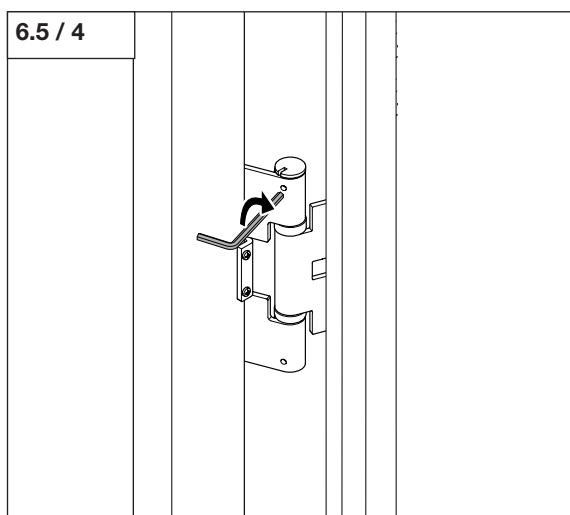
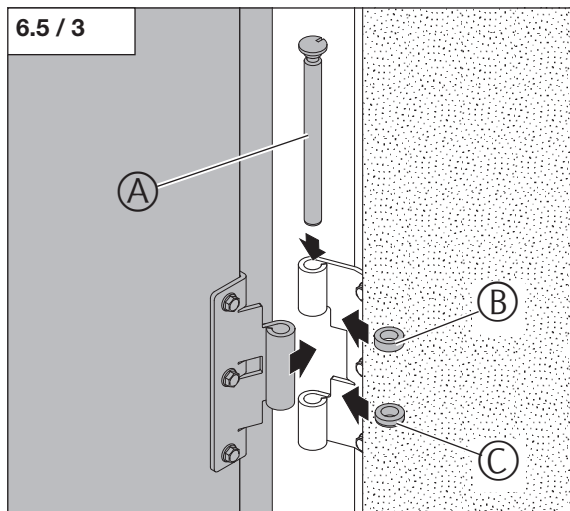
The bearing (C) must be installed so that the rounded side faces downwards.

- A Bolt
- B Spacer
- C Bearing (rounded side faces downwards)

- Connect the door leaf to the frame.

- Secure the bolt with the set screw.

- Position the door leaf in the upper hinge.



6. Installation

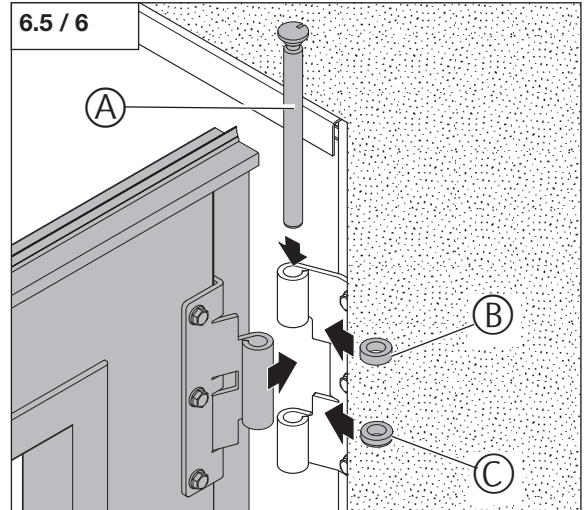


Note:

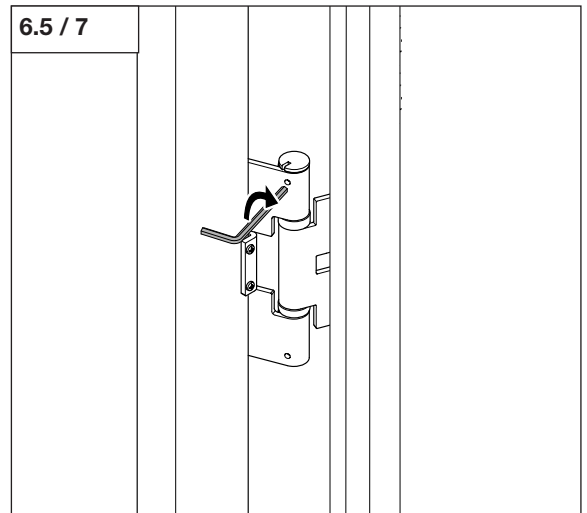
The bearing (C) must be installed so that the rounded side faces downwards.

- A Bolt
- B Spacer
- C Bearing (rounded side faces downwards)

- Connect the door leaf to the frame.



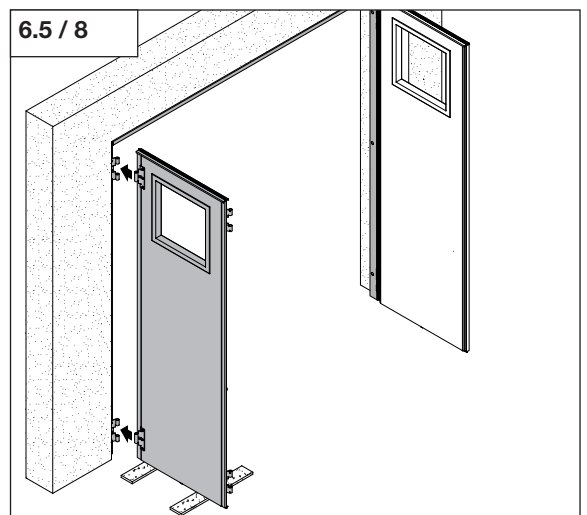
- Secure the bolt with the set screw.



Attention!

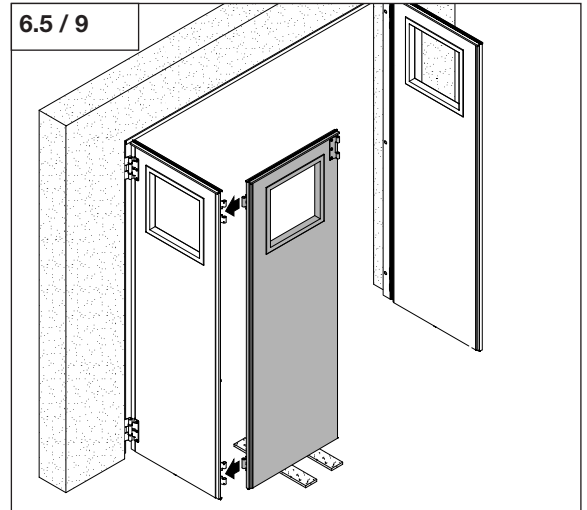
In order not to damage the door leaves and frame, the door leaves must be protected against being knocked over and from undue movements after mounting.

- Assemble the second door leaf on the opposite frame side.

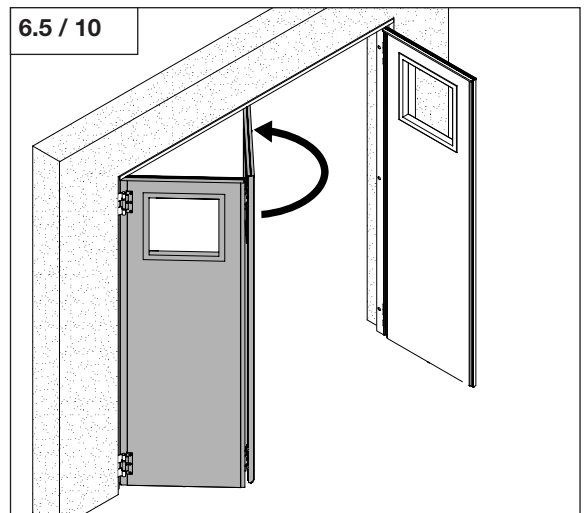


6. Installation

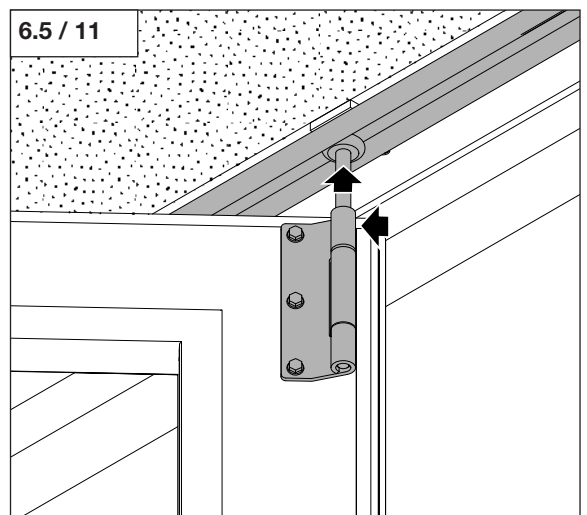
- Assemble the third door leaf.



- Swivel the second door leaf below the top frame element.

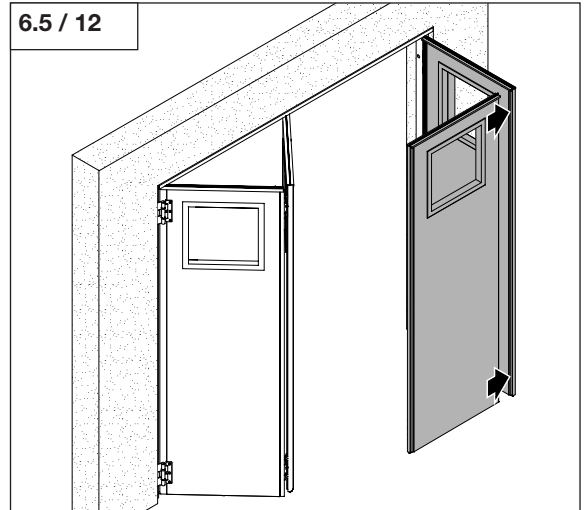


- Loosen the set screw on the track roller bracket.
- Push the roller into the guide rail.
- Fix the set screw in the groove of the track roller.

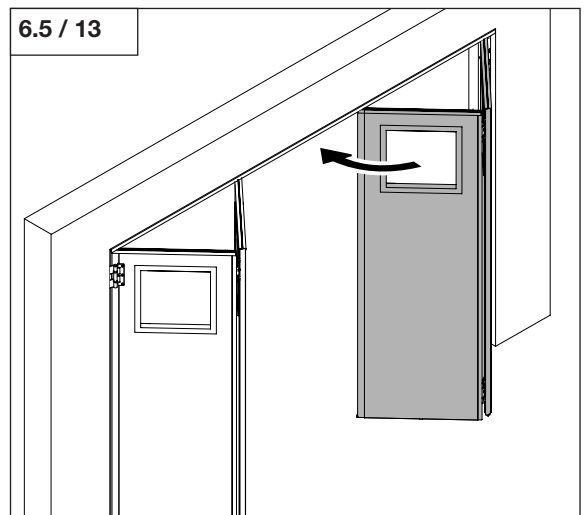


6. Installation

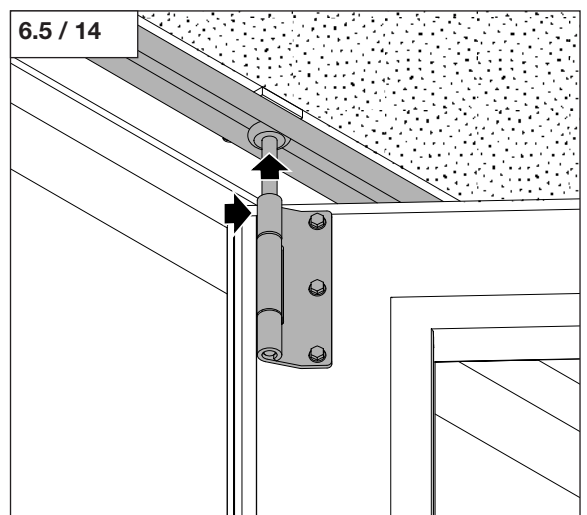
- Install the fourth door leaf.



- Swivel the fourth door leaf below the top frame element.



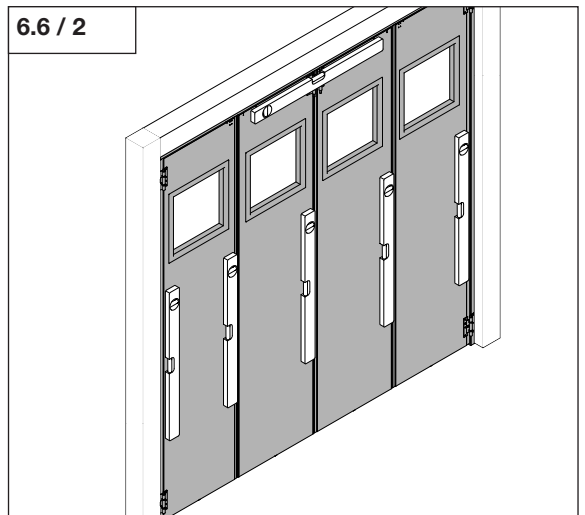
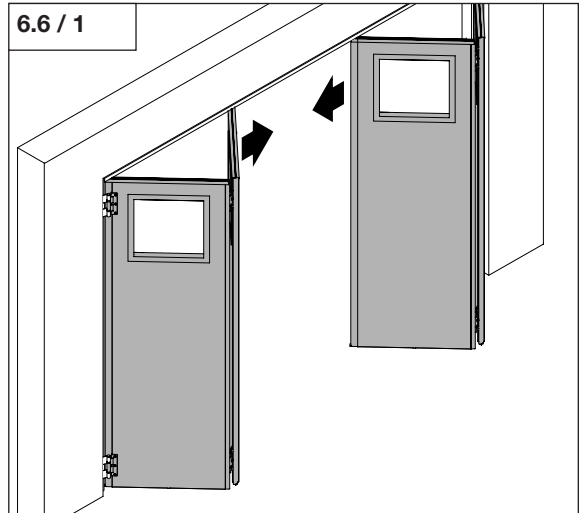
- Loosen the set screw on the track roller bracket.
- Push the roller into the guide rail.
- Fix the set screw in the groove of the track roller.



6. Installation

6.6 Adjusting the door

- Close the door.



Function check:

The following points must be fulfilled:

- The door must close easily and fully.
- The door must close tightly.
- The rubber seals must provide a flush fit and finish.
- The door must be aligned vertically and horizontally.

If the functional check is unsatisfactory, the door must be adjusted until all the requirements are met.

The following measures can be used to adjust the door.

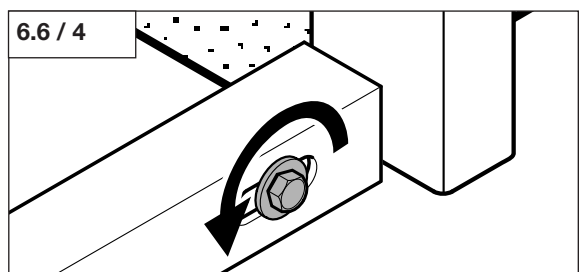
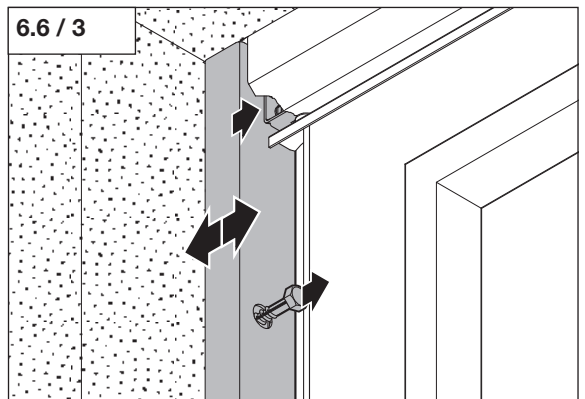
Adapting the side frame

- Loosen the bracket on the frame.
- Loosen the frame from the wall.

Note:

For doors with a bottom buffer, the screw on the buffer must be slightly loosened.

- Adjust the door by moving the frame.
- Retighten the bracket.
- Screw the frame to the wall.
- Tighten the bottom buffer.



6. Installation



Adjusting the hinges

Note:

Adjustment of the door via the hinges must be carried out one hinge at a time. Changes to the hinges accumulate.

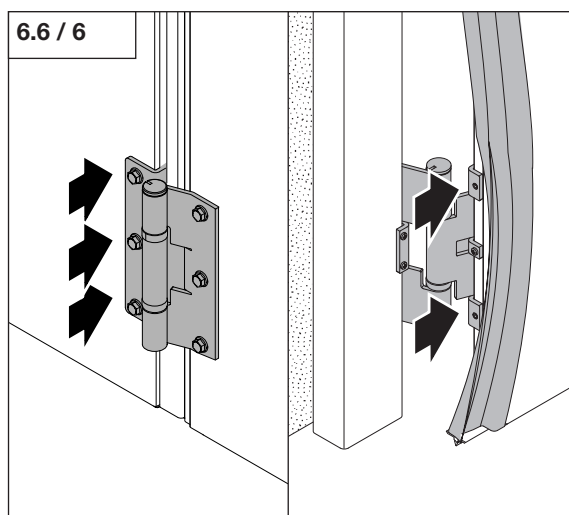
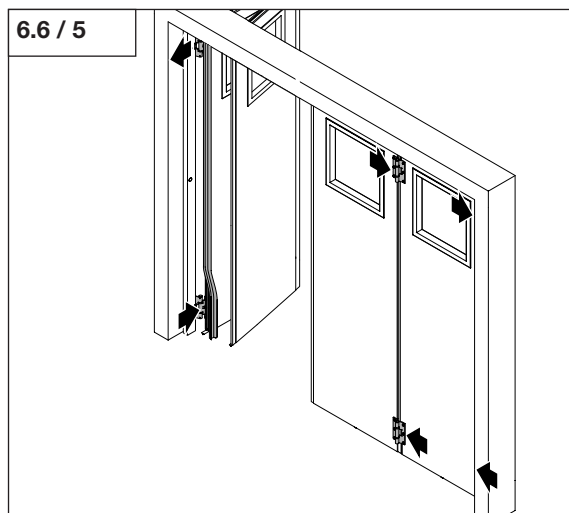
Upper hinge

The hinges can be tightened via M6x20 Torx screw.

Lower hinge

The hinge can be adjusted via the M8 set screw.

- Loosen the hinge at the door leaf.
- Partially remove the rubber profile from the holder.
- Adjust the door leaf via the Torx screws at the top and bottom (max. 3 mm).
- Push the rubber profile back into the holder.
- Tighten the hinge at the door leaf.

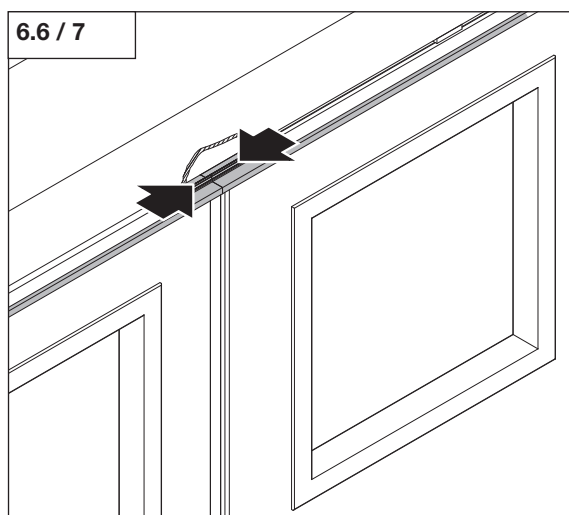


Adjusting the rubber seal

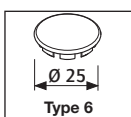
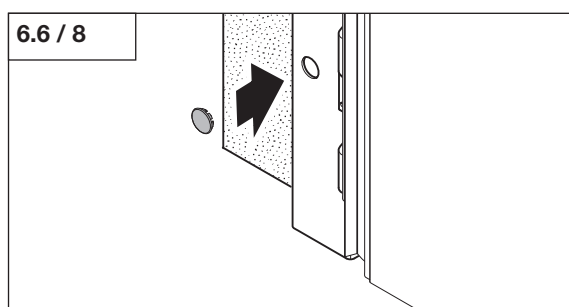
Note:

When the door is closed, the rubber seals must not be crushed or deformed.

- Adjust the rubber seals to ensure a flush fit and finish.



- Place the caps on the holes in the side frames.

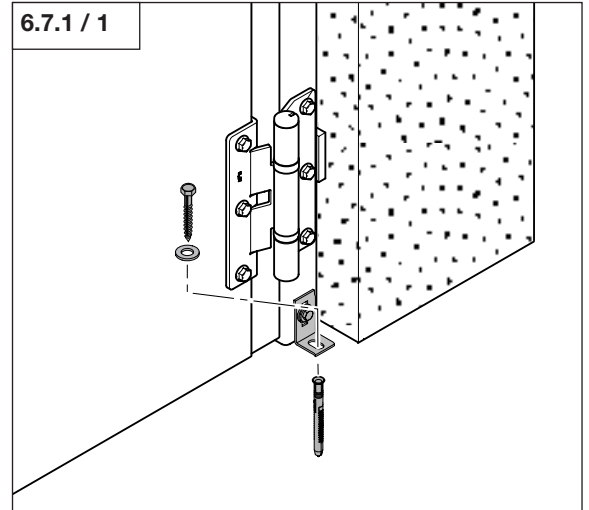


6. Installation

6.7 Fixing frames

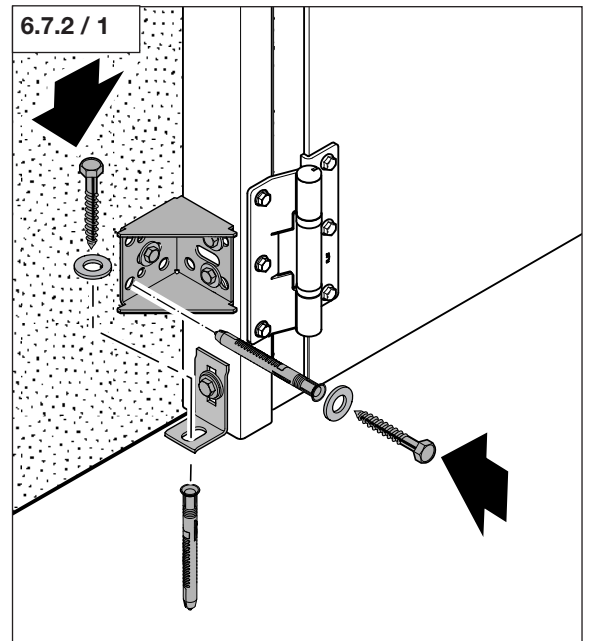
6.7.1 Frame installation in the soffit

- Screw the side frames to the floor with the floor bracket.



6.7.2 Frame installation in front of the soffit

- Screw the side frames to the floor with the floor bracket.
- Screw another screw into the wall through all fastening brackets.



6. Installation

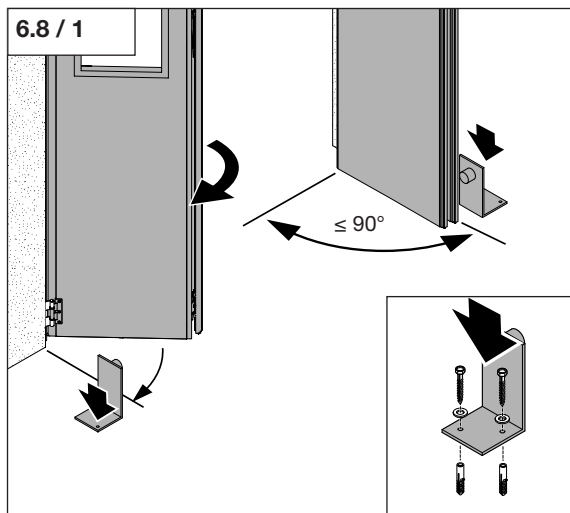
6.8 Installation of buffers



Attention!

So as not to damage the door, the door leaves may not be opened wider than 90°.

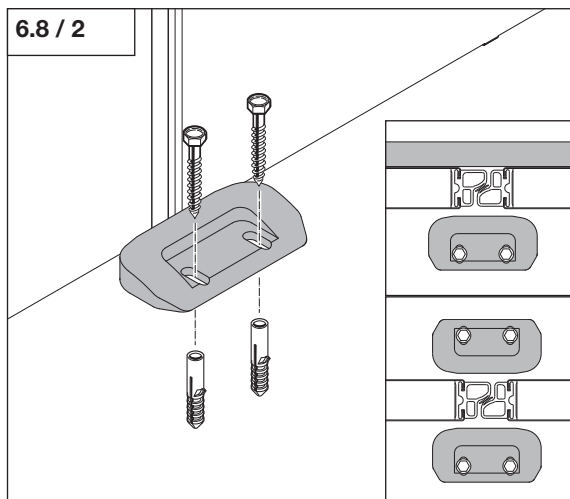
- Install the door stoppers.



Note:

For doors with a bottom buffer, only one door guide must be installed.

- Screw the door guides centrally in front of the door.



6. Installation

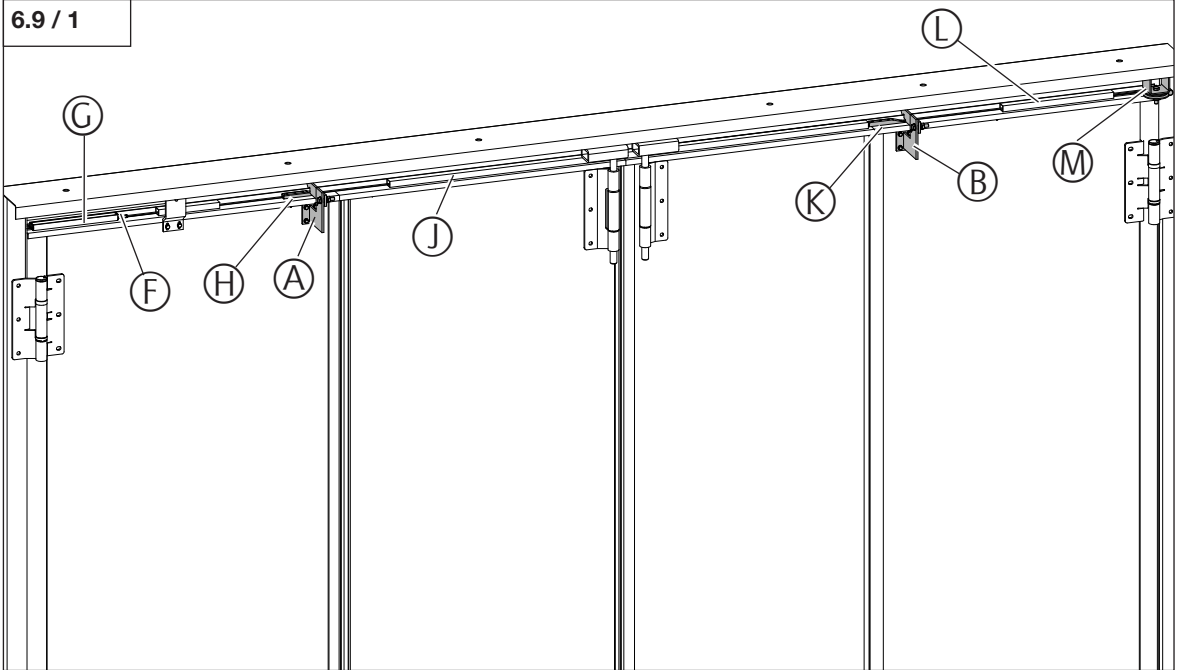
6.9 Installation of unlocking device (door opening inwards)



Note:

The illustrations show the installation of the cable run internally from left to right. When installing the cable run internally from right to left, the components must be installed as a mirror image.

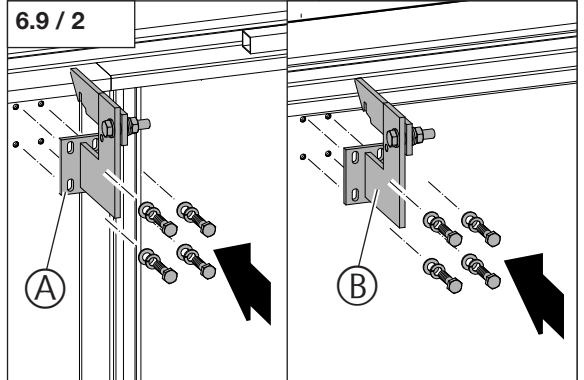
6.9 / 1



- Screw each unlocking mechanism (A+B) onto the outer door leaves.

The unlocking mechanism (A+B) can be fitted to the fully installed unlocking device with the elongated holes.

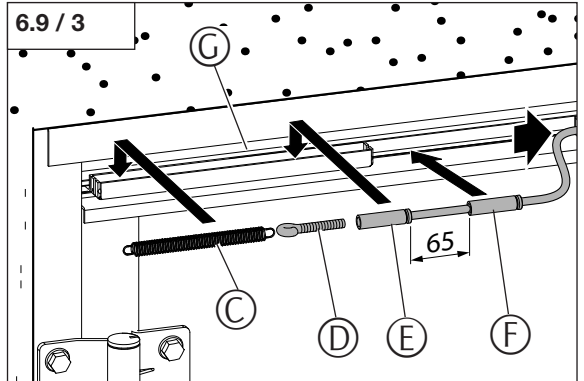
6.9 / 2



The threaded eyelet (D) and the grommet (E) must be fixed together with a threadlocker (e.g. Weicon).

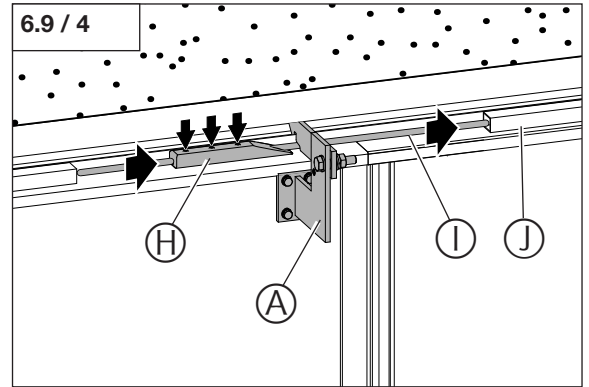
- Insert the spring (C), the threaded eyelet (D) and the grommet (E) into the spring seat (G).
- Position the stroke arresting device (F) in front of the spring seat (G).

6.9 / 3

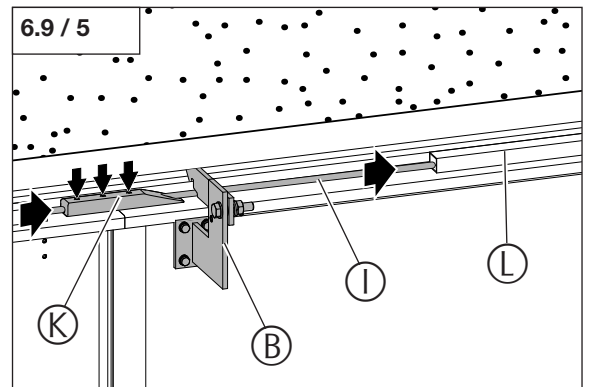


6. Installation

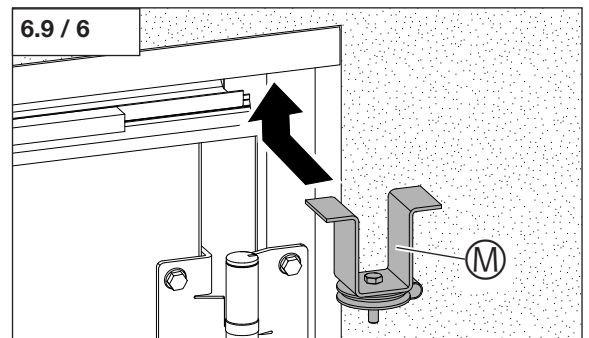
- Position the slider (H) in front of the first unlocking mechanism (A).
- Tighten the slider (H) with the three set screws on the cable (I).
- Guide the cable (I) through the pipe guide (J) onto the other side of the door.



- Position the slider (K) in front of the second unlocking mechanism (B).
- Tighten the slider (K) with the three set screws on the cable (I).
- Continue to guide the cable (I) through the pipe guide (L).

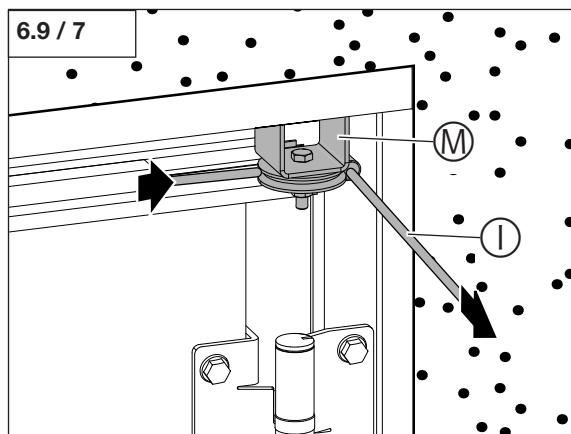


- Install the deflector (M).



6. Installation

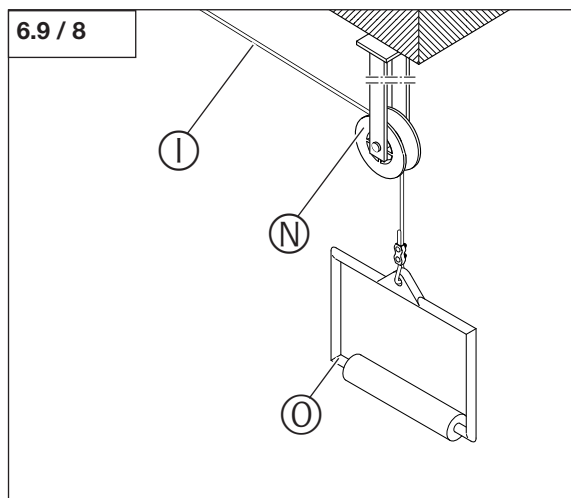
- Guide the cable (I) around the deflector (M).



Note:

To guarantee smooth functioning of the unlocking device, the cable guide may only be deflected twice. The deflector and lock on the handle selected by the customer must be designed in accordance with the tensile load.

- Install the second deflector (N) according to the construction conditions.
- Guide the cable (I) around the second deflector (N).
- Fix a suitable release handle (O) to the end of the cable (I).



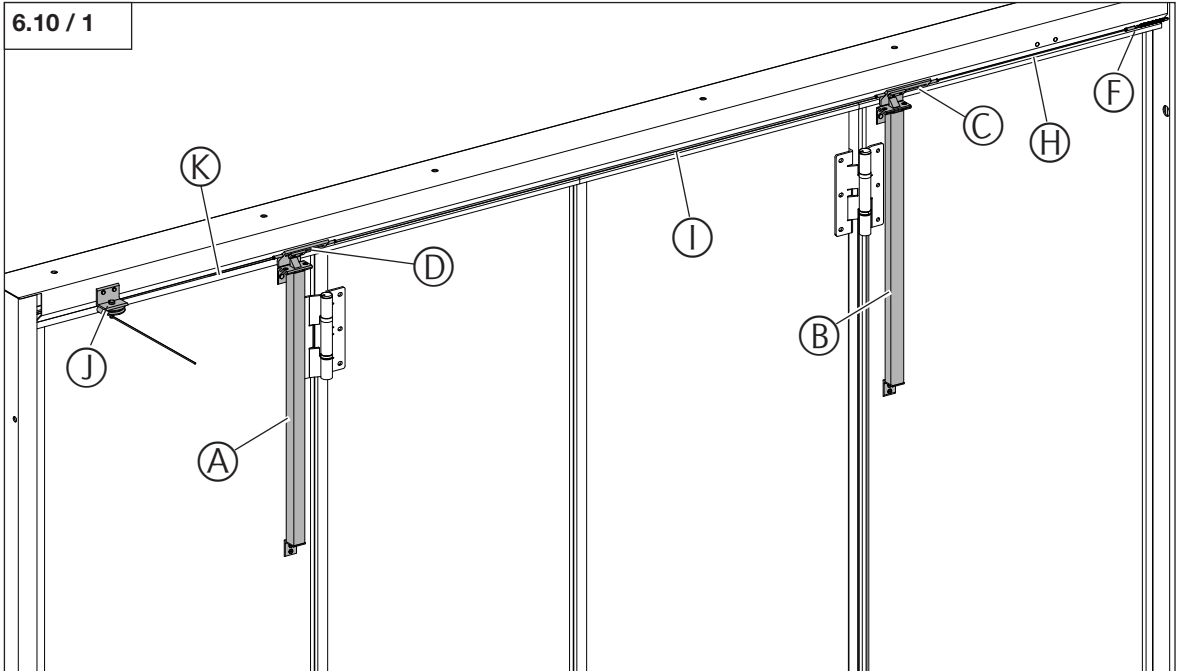
6. Installation

6.10 Installation of unlocking device (door opening outwards)

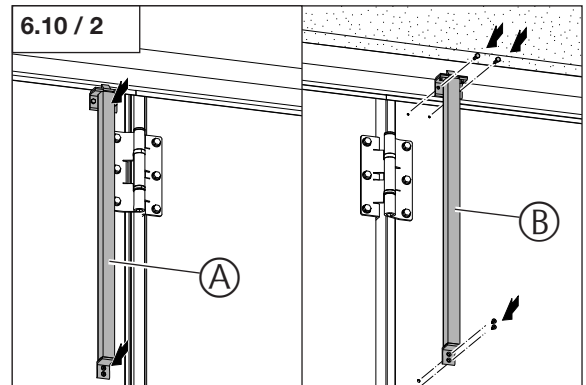


Note:

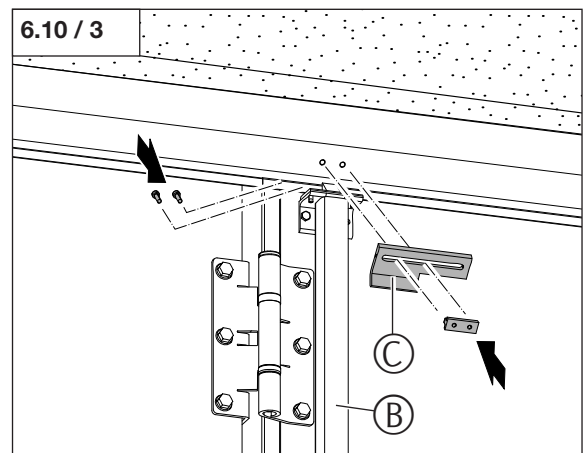
The illustrations show the installation of the cable run internally from right to left. When installing the cable run internally from left to right, the components must be installed as a mirror image.



- Screw each safety catch (A+B) onto the outer door leaves.

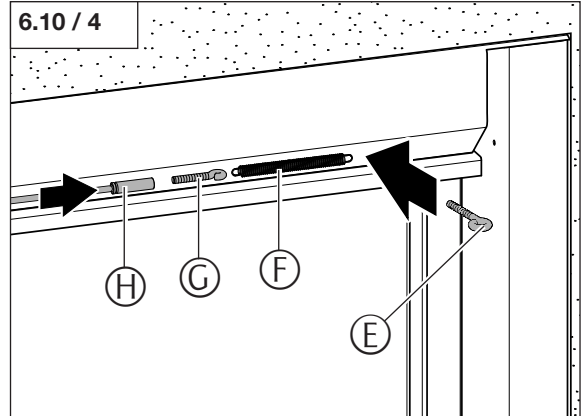


- Screw the sliders (C+D) to the frame via the safety catches (A+B).

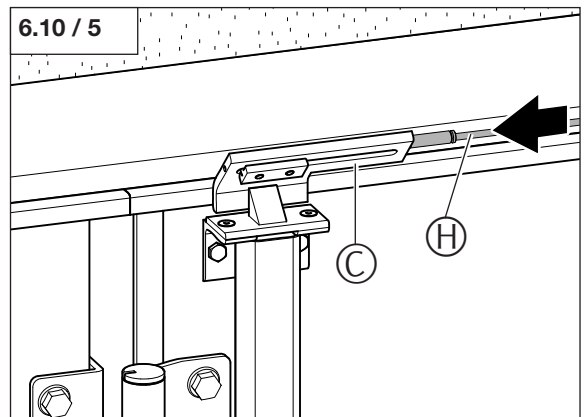


6. Installation

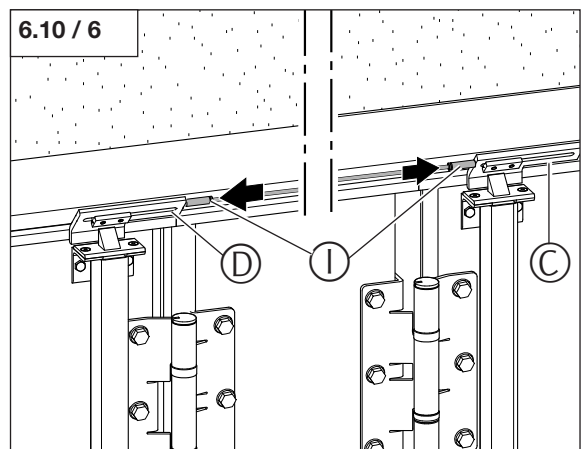
- Insert the threaded eyelets (E) and the springs (F).
- Attach the cable (H) to the threaded eyelet (G).



- Attach the cable (H) to the slider (C).

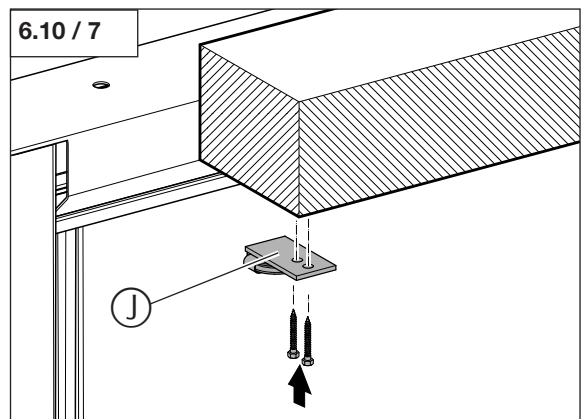


- Attach the sliders (C+D) to the cable (I).



Installation type in front of the soffit

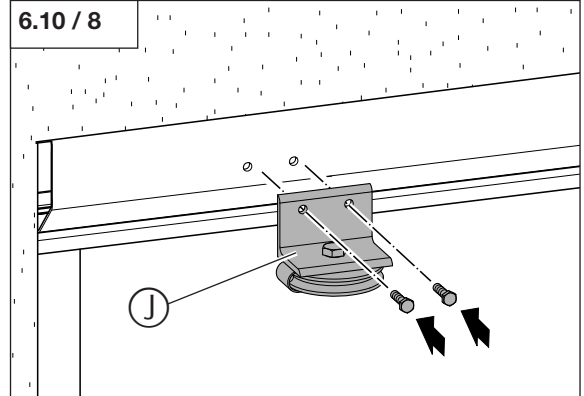
- Install the deflector (J) below the lintel.



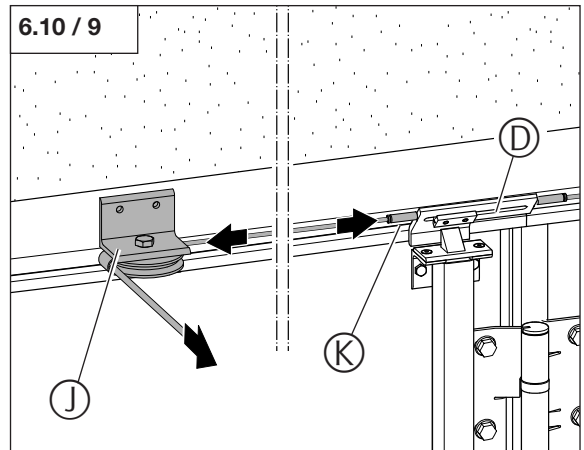
6. Installation

Installation type in the soffit

- Install the deflector (J) onto the frame.



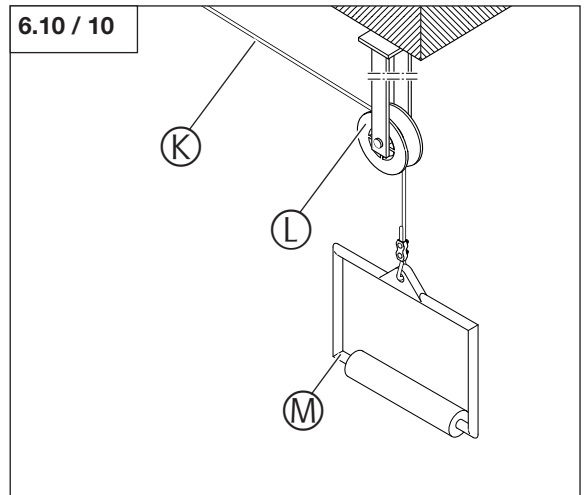
- Install the cable (K) onto the slider (D).
- Guide the cable (K) around the deflector (J).



Note:

To guarantee smooth functioning of the unlocking device, the cable guide may only be deflected twice. The deflector and lock on the handle selected by the customer must be designed in accordance with the tensile load.

- Install the second deflector (L) according to the construction conditions.
- Guide the cable (K) around the second deflector (L).
- Fix a suitable release handle (M) to the end of the cable (K).



6. Installation

6.11 Installing the opening aid



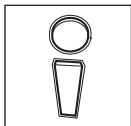
Note:

The opening aid must meet the following conditions:

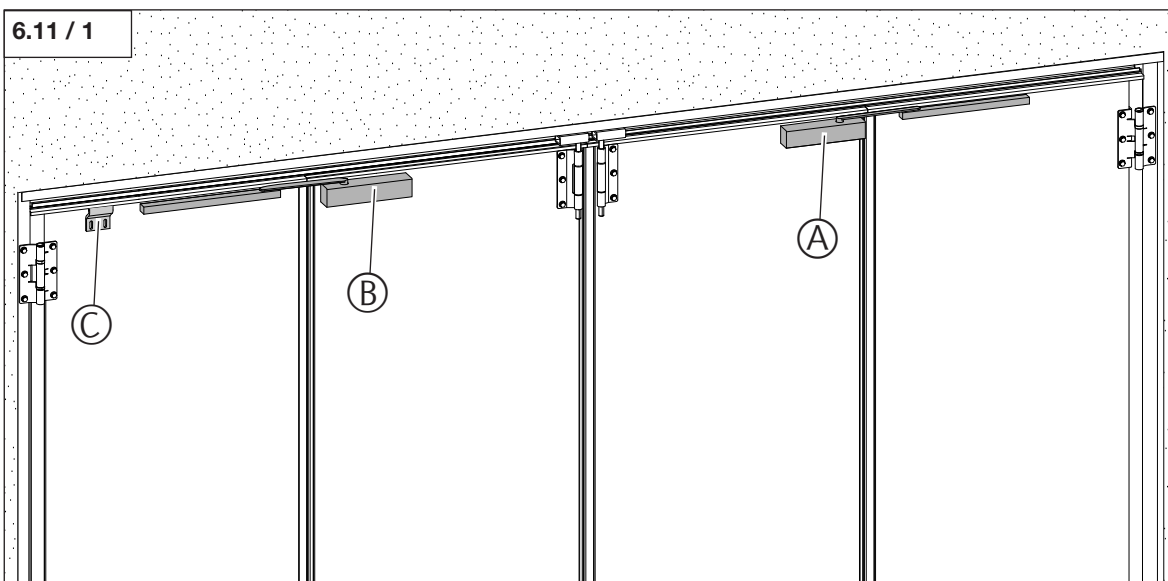
- The opening aid must be tensioned in such a way that the closed door can be pushed open (reverse function to door closing).
- The opening speed must be at least 25 cm/s (average speed).
- For doors opening inwards, the opening aid must be installed on the inside of the door leaves.
- For doors opening outwards, the opening aid must be installed on the outside of the door leaves.

Reference:

The enclosed instructions for the opening aid must be followed for installing and adjusting the opening aid (A+B).

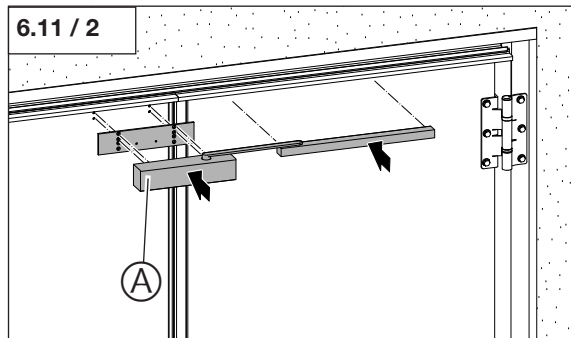


6.11 / 1



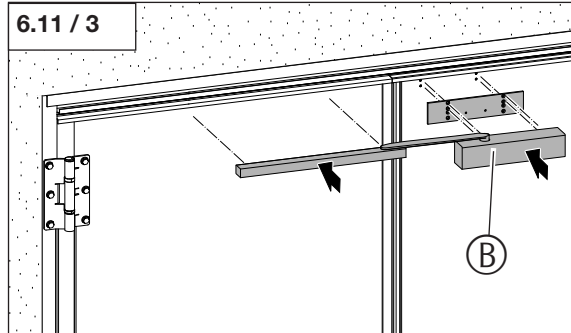
- Install the opening aid (A).

6.11 / 2



- Install the opening aid (B).

6.11 / 3

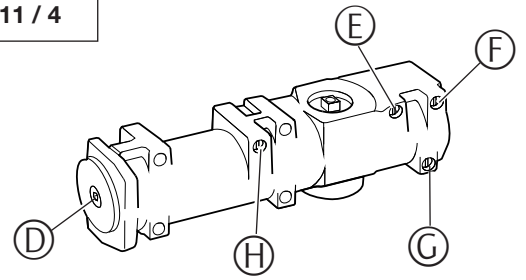


6. Installation

- Adjust the opening aid.

- D Adjust closing force
(depending on size of door leaf)
- E Close fully
- F Adjust opening speed
- G Open fully
- H Open fully

6.11 / 4



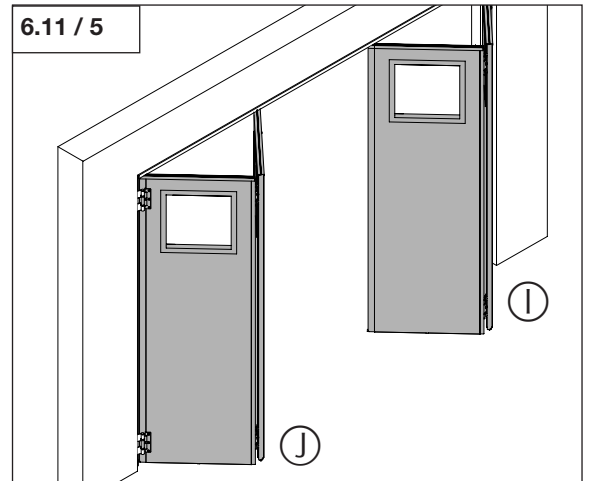
Note:

To guarantee smooth functioning of the door, the opening sequence must be observed. The left leaf pair must open before the right leaf pair. The early opening of the left leaf pair is achieved using a gas pressure spring (C).

The left and right leaf pair is always defined viewed from the opening side.

- I Right leaf pair
- J Left leaf pair

6.11 / 5

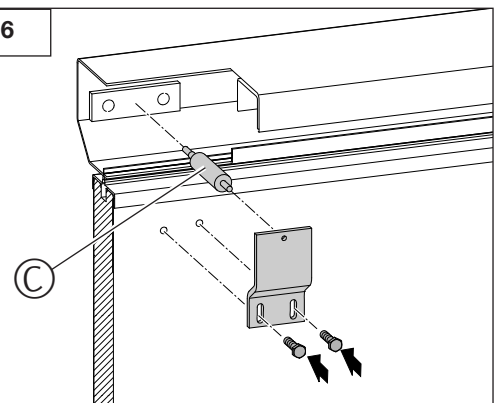


Note:

To ensure long-lasting attachment, the screws must be secured against coming loose by themselves (e.g. Loctite).

- Screw the gas pressure spring (C) onto the left door leaf.

6.11 / 6



6. Installation



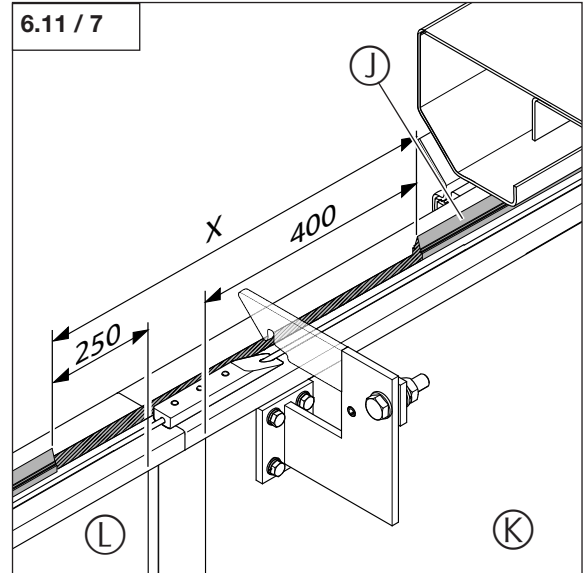
Note:

So as not to damage the door and to guarantee the functioning of the opening aid, the seal (J) must be adapted to the door leaves for doors opening inwards on both sides in the area of the opening aid.

The seal (J) may only be shortened by the part above the groove.

- Remove the seal (J) in the specified area.

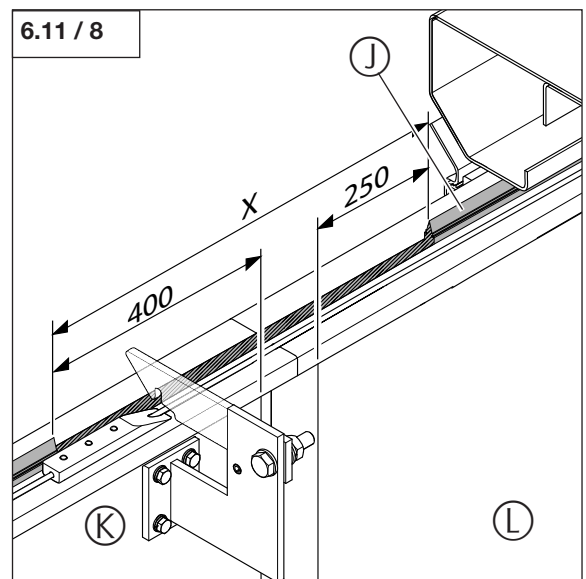
K Outer door leaf
L Inner door leaf



The seal (J) may only be shortened by the part above the groove.

- Remove the seal (J) on the opposite side.

K Outer door leaf
L Inner door leaf



6. Installation

6.12 Final work

- Attach the information sign to the inside of the door.



Note:

Before commissioning, the door and all functions must be checked and approved by a trained and competent installer.

6.12 / 1

Nutzungshinweise für Teckentrup Feuerwehrtor

- Die Bedienung des Tores darf nur durch unterwiesene Personen erfolgen.
- Das Abstellen von Fahrzeugen und Gegenständen im Schwenkbereich des Tores ist verboten.
- Der Raum hinter den geöffneten Torflügeln muss freigehalten werden.
- Das rechte Flügelpaar immer zuerst schließen.
- Die sichere Funktion des Tores ist regelmäßig zu kontrollieren.
- Wartungs- und Instandhaltungsarbeiten dürfen nur von sachkundigen Personen durchgeführt werden.

Teckentrup GmbH & Co. KG
Industriestraße 50 · 33415 Verl-Sürenheide
Tel. 0 52 46 / 5 04-0 · Fax 0 52 46 / 504-30
Postfach 31 13 · 33326 Gütersloh



Attention!

To prevent damage to the surface, the door must be protected against spots of mortar, cement, plaster or paint.

6.12.1 Sealing

- Use permanently elastic sealing to seal the frame (insulation).

6.12.2 Painting



Note:

The application of top coats containing alkyd resin on galvanized substrates can lead to a later loss of adhesion of the overall coating on outside surfaces which are exposed to harsh weather conditions. If harsh weather conditions are expected, a 2K acrylic or 2K polyester paint must be used.

Doors with a 2K-HS filling primer

The components can be painted with a standard top coat paint.

Doors with powder-coating or strip coating



Note:

Insofar as no finish is provided, doors which are installed outdoors must be provided with a finishing coat no later than three (3) months after installation.

The surface must be sanded and cleaned before carrying out further processing tasks.

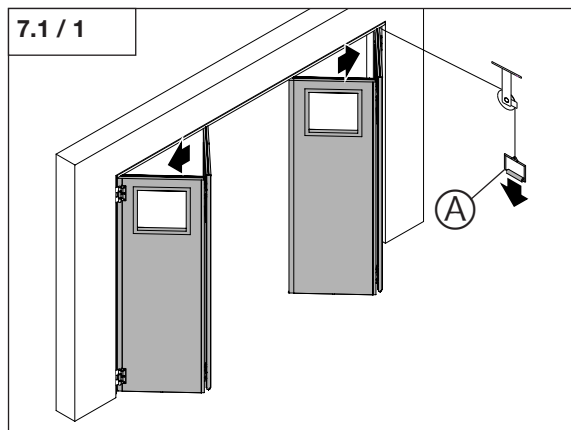
A solvent-based 2K polyurethane paint can be used for single-layer painting.

Always apply a solvent-based Epoxy primer before using synthetic-resin varnishes.

7. Operation

7.1 Opening the door

- Pull on the release lever (A) until the door starts to move.



7.2 Closing the door

Note:

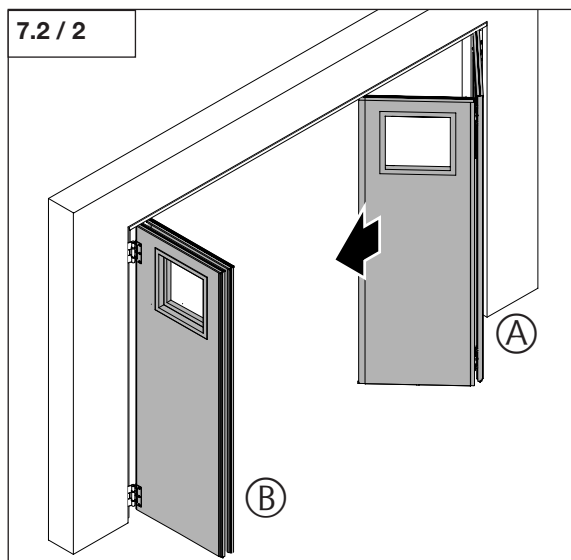
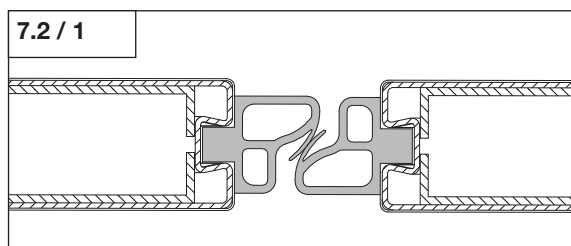
To guarantee smooth functioning of the door, the right door leaf side must always be closed first.

When the door is closed, the seals must be facing each other. Catching of the sealing lips must be prevented.

The left and right leaf pair is always defined viewed from the opening side.

- A Right pair of leaves
- B Left pair of leaves

- Slide the right leaf pair completely closed.
- Slide the left leaf pair completely closed.



8. Maintenance



Note:

The fire brigade folding door and its associated components must undergo regular maintenance by competent installers. Maintenance must be carried out at least every 12 months. All maintenance work must be documented in a testing book.

The fire brigade folding door is designed for 10,000 operating cycles. If the 10,000 operating cycles are exceeded, a general inspection must be carried out by the manufacturer.

The following maintenance tasks must be carried out by the operator once a week:

- Visually inspect the door leaves, guide rails, seals and glazing.
- Check the correct attachment of the guide rails, hinges and frame elements (clean the guide rails if necessary).
- Check the correct position of the hinges and bolts (grease the bolts if necessary).
- Check the correct functioning of all the locking mechanisms, guide rollers, locks and hardware.
- Check the surfaces for damage. Damaged surfaces must be touched up (corrosion protection).

Any questions? We would be glad to help! Contact your Teckentrup consultant.

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