

single-leaf and double-leaf doors

Planning, Installation and Maintenance Instructions

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2. Symbol Explanation



Caution! Risk of personal injuries!



Attention! Risk of material damages!



Note



Function check



Reference



Information on fire doors



Information on anchor types
(plastic anchor (SMW type
1) shown here)



Information on
smoke protection doors



Information on frame
(counter frame shown here)



Information on
sound insulated doors



Information on
security doors



Information on
multi-purpose doors



Information on
escape doors



Information on
panic doors

3. General Information



Caution!

Read and follow all the instructions in this manual as well as the information specified below to ensure safe installation and correct operation. Non-adherence to warnings may result in personal injury and property damage.

3.1 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,
- knowledge of the standards and regulations required for installation,
- participated in training courses for the application of safety equipment,
- been trained in the safe use of hand and electric tools,
- regularly participated in courses provided by the manufacturer.

The installation of electrical components (motorized/block locks, electric door openers, etc.) should only be carried out by authorized specialists trained and qualified to stringent professional standards (VDE - German Association for Electrical, Electronic & Information Technologies).

3.2 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 authorized accessories are used,
- 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.



3.3 General safety instructions

Caution!

- Any enclosed drawings take priority over this manual.
- Documents supplied with accessories take priority over this manual.
- Installation must occur in the sequence specified in this manual.
- Cordon off the danger zone prior to installation.
- Ensure that people who are not involved with installation are kept away from the danger zone.
- Installation must be carried out by at least two people.
- During the entire installation process, ensure that the door leaves and frame parts cannot fall down or be knocked down.
- Only use approved original spare parts for the door.
- Never modify components.
- Installation must be carried out from a secure position.
- The door must be mounted to adjoining components tightly enough to ensure that
 - expected forces are permanently supported when the door closes automatically,
 - forces resulting from a fire are permanently absorbed and
 - the expected forces do not endanger the stability of adjoining components (wall, ceiling and floor).
- Only use intact as well as certified and tested lifting devices (assembly cranes, fork lifts) which are suitable for the intended load.
- Prevent draughts (wind load) during installation.
- Always use scaffolding or lifting platforms to carry out installation work at heights above 2 m.
- Welding and cutting should only be carried out if
 - they have been expressly approved and - if the subsurface is free of dust and flammable materials
 - When using mortar, wait for the mortar to cure before commencing the next installation step.
- Always wear suitable protective clothing during installation.
- It is not allowed to weld in the area of the foaming material.

3.4 General requirements

Installation company

The owner or the client is entitled to a declaration of conformity signed by the installation company (also see last page of the respective approval). The CE marking, if the door falls within the scope of the harmonized European product standard, is indicated on a label placed in the rebate area of the door (hinge side).

Installation site

This product should only be installed and operated in countries in which the approval, the test certificate and further relevant documents are valid. The door should only be installed on substructures which are approved for the static loading conditions. The height of the finished floor must be specified. Alternative arrangements as regards the door height must be documented in writing prior to installation.

Wall types

- The information given is minimum requirements for installation in Germany. When installed in other countries, the respective national approvals apply, whereby the material characteristics must at least be based on the DIN.

Table 1: Wall types

Admission end number	Z-6.20-	1956	1956	1923	1923	1923	1923	2037	2037	1910	1910	1965	1965	2057	2057	2057
door type		T30-1-42	T30-2-42	T30-1-62	T30-2-62	T30-1-62 ST	T30-2-62 ST	T30-1-62 DF	T30-2-62 DF	T60-1-62	T60-2-62	T90-1-62	T90-2-62	T90-2-SV	T90-1-DF	T90-2-DF
Masonry to DIN 1053-1 DFK >> 12 MG >> II		115	115	115	115	115	115	115	115	115	115	175	175	175	175	175
	>1350*2500							175								
	>1500*3000			175		175										
	>2500*2500				175		175		175							
Concrete to DIN 1045-1 FK >> B15 (RC) FK >> C12/15 (BS/RS)		100	100	100	100	100	100	100	100	100	100	140	140	140	140	140
	>1350*2500							140								
	>1500*3000			140		140										
	>2500*2500				140		140		140							
Aerated concrete blocks to DIN 4165-3, FK >> 4		115	150	115	115	115	115	175	175	150	150	175	175	200	200	200
	>1250*2500											200				
	>1350*2500			150		150		200								
	>1500*3000			200		200										
	>2250*2250												200			
	>2500*2500				150		150		200							
	>3000*3000				200		200									
Aerated concrete panels reinforced to Abz., FK >> 4		115	115	115	115	115	115	175	175	150	150	150	150	200	200	200
	>1250*2500											175				
	>1350*2500			150		150		200								
	>1500*3000			175		175										
	>2250*2250												175			
	>2500*2500				150		150		200							
	>3000*3000				200		200									
Only corner frame for autoclaved aerated concrete		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	no	yes	no
	Frame-mouth with >>	150	150	150	150	150	150	175	175	150	150	150			200	
	modular dimensions			<<1250 *2500	<<2500 *2500	<<1250 *2500	<<2500 *2500	<<1250 *2250	<<2250 *2250			<<1250 *2250				
	with glazing	no	no	yes	yes	yes	yes	yes	yes	yes	nein	nein			no	
	SMW allowed	yes	yes	yes	yes	yes	yes	no	no	yes	yes	yes			no	

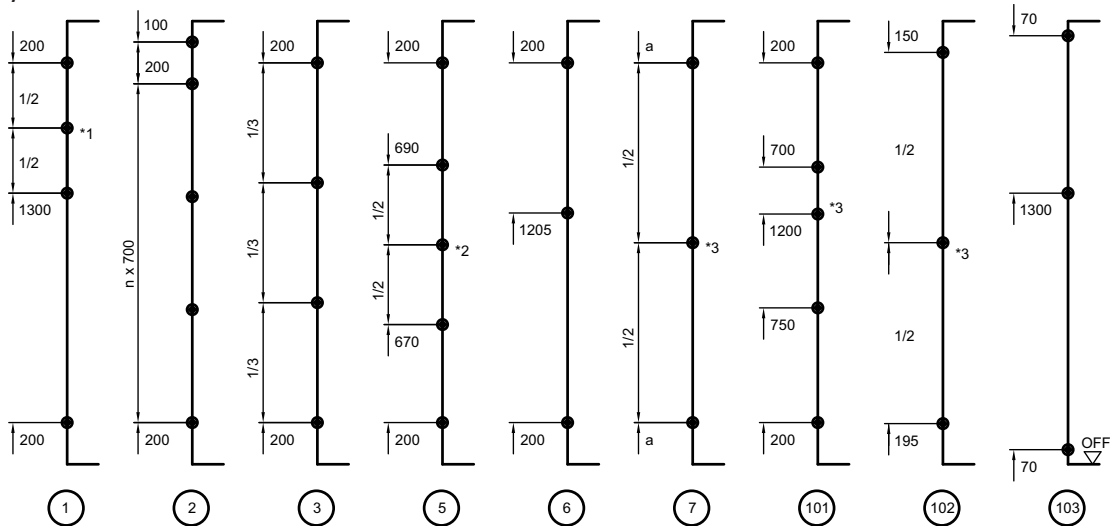
3. General Information

Anchor positions

Table 2: Anchors

	Frame side	T30-1-42	T30-2-42	T30-1-62/T30-1-62-ST H ← 1750	T30-1-62/T30-1-62-ST H → 1750	T30-2-62/T30-2-62-ST	T30-2-62/T30-2-62-ST KS-SMW-Verankerung	T30-1-DF	T30-2-DF
- Solid walls - Concealed steel supports - rear frame mirror at UZ and GZ	Lock	103		104	1			1	
	Hinge	103	107	104	1	1	106	1	1
	Head		21 M=400			21 M=400	24 N=200 M=400	22 N=200	24 N=200 M=400
- Autoclaved aerated concrete (anchor doweled)	Lock	3		104	3			3	
	Hinge	2	2	105	2	2	106	2	2
	Head		21 M=400			21 M=400	24 N=200 M=400	22 N=200	24 N=200 M=400
- Installation walls	Lock	103		104	1			1	
	Hinge	103	107	104	1	1	106	1	1
	Head		21 M=400			21 M=400	24 N=200 M=400	22 N=200	23 N=200 M=400

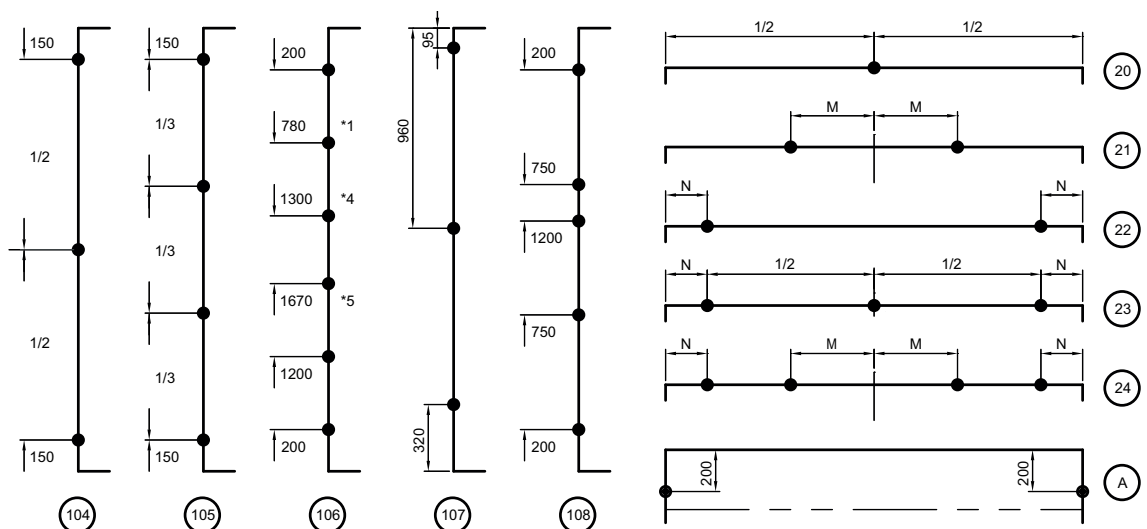
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Note:
An additional anchor must be installed 60 mm above the upper edge finished floor (OFF) for doors without a floor recess.



	Frame side	T60-1-62 H \leftarrow 1750	T60-1-62 H \rightarrow 1750 T60-2-62	T90-1-62 \leftarrow 1350 x 1750	T90-1-62 \rightarrow 1350x1750	T90-2-62	T90-1-62 Einbauhöhe \rightarrow 500mm	T90-1-DF	T90-2-DF T90-2-SV
- Solid walls - Concealed steel supports - rear frame mirror at UZ and GZ	Lock	7 a=160	6	102	101		108	1	
	Hinge	7 a=160	6	102	101	1	108	1	1
	Head		23 N=220		22 N=150	24 N=200 M=400			24 N=200 M=400
- Autoclaved aerated concrete (anchor doweled)	Lock	7 a=160	5	102	101		108	3	
	Hinge	7 a=160	5	102	101	2	108	2	2
	Head	20	24 N=220 M=500		22 N=150	24 N=200 M=400			24 N=200 M=400
- Installation walls	Lock	7	5	102	101		108	1	
	Hinge	7	5	102	101	1	108	1	1
	Head	20	24 N=220 M=500		22 N=150	24 N=200 M=400			23 N=200



A Casing

*1 > 2500

*2 > 2250

*3 > 1250

*4 > 3000

*5 > 3500

3. General Information

Gap dimensions

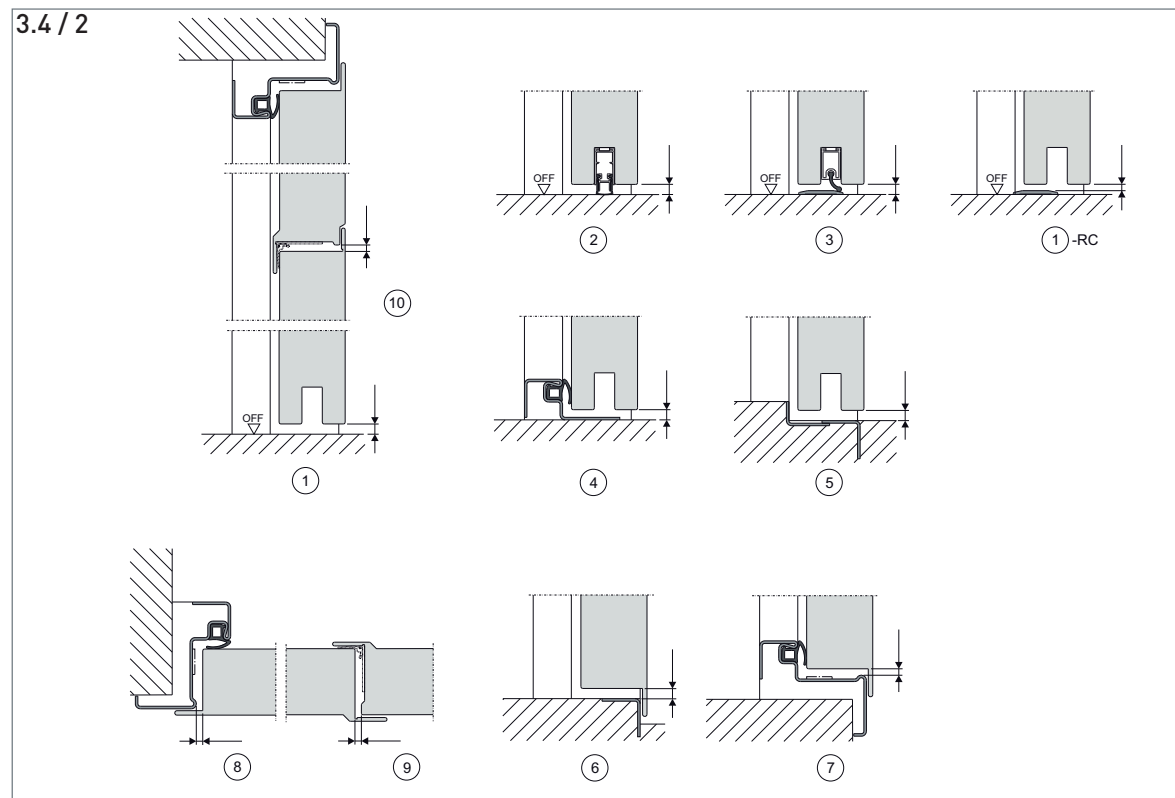
Table 3: Gap dimensions

	Position	Bottom								Hinge side	Top (also with casing)	Lock side	Centerfold without embossing	Centerfold with embossing				
	Version	3-sided	3-sided with threshold	3-sided with buffer seal	3-sided with buffer	3-sided retractable bottom seal	4-sided, 3-sided frame	3-sided sliding threshold seal	4-sided, 4-sided frame									
door type	image	1	1 -RC	4	5	2	6	3	7	8	10	8	9	9				
T30-1-42		8 +7/-4		8 +2/-4	8 +7/-4	8 +2/-4	8 +2/-4	8 +2/-1	5 +1/-2	8 +2/-4	8 +2/-4	8 +0/-4						
T30-2-42									5 +1/-2	8 +2/-4	8 +2/-4		6 +2/-1	6 +2/-0				
T30-1-62			≤3	8 +7/-4					8 +2/-4	8 +2/-4	8 +2/-4	8 +0/-4						
T30-2-62									8 +2/-4	8 +2/-4	8 +2/-4		9 +1/-3	6 +1/-1				
T30-1-62-ST									5 +5/-1	5 +2/-1	5 +5/-1	5 +2/-1						
T30-2-62-ST									5 +5/-1	5 +2/-4	5 +2/-4		5 +1/-1					
T30-1-DF									5 +1/-2	5* +1/-2	5 +1/-2	5 +1/-2						
T30-2-DF									5 +1/-2	5* +1/-2	5 +1/-2		5 +1/-1					
T60-1-62									8 +2/-4	8 +2/-4	8 +2/-4	8 +0/-4						
T60-2-62									8 +2/-4	8 +2/-4	8 +2/-4		6 +1/-1					
T90-1-62									8 +2/-4	8 +2/-4	8**+2/-4	6 +1/-1						
T90-2-62									8 +2/-4	8 +2/-4	8 +2/-4		10 +2/-1					
T90-1-DF									5 +1/-2	5 +1/-2	5 +1/-2	5 +1/-2						
T90-2-DF									5 +1/-2	5 +1/-2	5 +2/-2		6 +1/-1					
T90-2-SV									5 +1/-2	5 +1/-1	5 +1/-2		6 +1/-1					

* when using screw hinges 8mm

-with RC version of the door in conjunction with panic, install the supplied threshold.

** hoistway door 8mm +3/-3



Dimensions

Approved tolerances for the wall opening dimensions according to DIN 18100:

Width: Modular dimension +20 mm / -0 mm

Height: Modular dimension +15 mm / -0 mm

Correct operation and stability of the door are not guaranteed if tolerances are exceeded.

Table 4: Dimensions

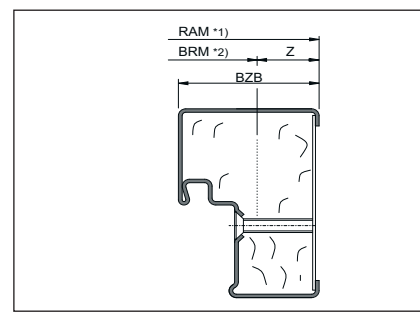
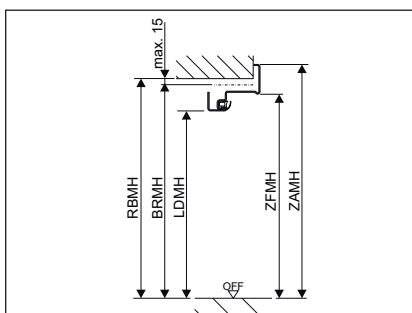
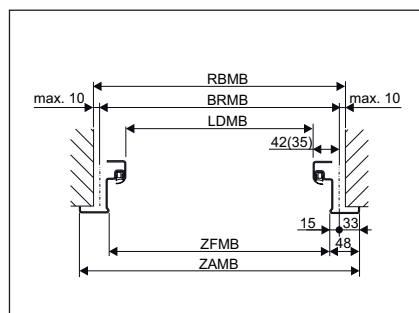
Designation	Abbreviation	Formula
Modular dimensions - width	BRMB	
Dim. In unfinished state - standard width	RBMB	BRMB + 10
Frame clearance dimension - width	LDMB	BRMB - 84(70)
Overall frame dimension - width	ZAMB	BRMB + 66
Frame rebate dimension - width	ZFMB	BRMB - 30
Overall frame dimension - block frame width	RAMB	BRMB + 2 x Z
Dim. in unfinished state - block frame width	RBMB	RAMB + 10
Dim. in unfinished state - block frame width 2.2	RBMB	LDMB

Designation	Abbreviation	Formula
Modular dimensions - height	BRMH	
Dim. In unfinished state - standard height	RBMH	BRMH + 10
Frame clearance dimension - height	LDMH	BRMH - 42(35)
Overall frame dimension - height	ZAMH	BRMH + 33
Frame rebate dimension - height	ZFMH	BRMH - 15
Overall frame dimension - block frame height	RAMH	BRMH + Z
Dim. in unfinished state - block frame height	RBMH	RAMH + 5
Dim. in unfinished state - block frame height 2.2	RBMH	LDMH

Block frame type	Dimension Z
1.1; 1.2	73 mm
2.1; 2.2; 3; 4.2	58 mm
4.1	33 mm
5.1; 5.2; 5.3; 5.3L	37 mm

() Dimensions in brackets apply for T30-42- and DW42-doors with a corner frame.

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Surface treatment

- Powder-coated primer (see sticker): The door leaves and frames have an environmentally friendly powder-coated primer. Sand the surface and clean it thoroughly for further colour treatment. Solvent-based 2K polyurethane paint can be used for single-layer painting. Always apply a solvent-based Epoxy primer before using synthetic enamels.
- Primer paint: The door leaves are coated with an acrylic resin based 2K PUR primer. This ensures that a permanent and universal final coat can be applied using commercially available 1K and 2K systems, guaranteeing excellent corrosion protection.
- If the primer has been removed or damaged during installation, it must be subsequently touched up.
- Never paint over seals, locks, identification plates or other hardware.
- To prevent a loss of adhesion of the top coat, it is recommended to clean and lightly sand the subsurface (except the insulation layer. Insulation layers may be painted over.
- Remove all seals prior to applying the final coat, and reinsert them correctly afterwards according to specifications.

3. General Information



Attention!

Apply a final coat to doors, at the latest, 3 months after installation; otherwise we shall not accept liability for corrosion damage. We do not recommend the use of synthetic resin paints due to saponification on galvanized surfaces and the resulting loss of adhesion.

- For foiled doors, the foil must be removed before commissioning.
- For end-coated doors, observe the sticker on the door leaf.



Attention!

Sunlight can result in sheet steel doors in a temporary deformation of the door leaf (bi-metal effect). Dark shades increase the heat absorption on the door leaf surface considerably.

This physical thermal expansion is no reason for complaint!

To prevent damage should be chosen bright, reflective shades or taken structural measures to prevent direct sunlight.

Wall plugs

The following requirements must be met:

- Only use wall plugs (dia. 10) which are building authority approved for the substructure.
- Wall plugs do not have to be explicitly approved for use at fire doors.
- Wall plugs must be used with the respective screws.
- Follow the specifications of the wall plug manufacturers (wall plug distances/ edge distances).
- Always pay attention to the diameter and depth of the hole.
- Always clean the hole of dust and debris before inserting the wall plug.
- If the wall type and the edge distances allow it, it is also possible to use building authority approved steel expansion plugs.
- Never use the hammer setting when drilling perforated bricks.

Table 5: Wall plug types - examples (Notice the specifications of the wall plug-manufacturers)

Type	Concrete	Masonry	Autoclaved aerated concrete
Atrion ARU	✓	✓	✓
fischer FUR	✓	✓	✓
fischer SXR	✓	✓	✓
Hilti HRD	✓	✓	✓
Mungo MBR-X 1)	✓	✓	-
Würth W-RU	✓	✓	✓
Würth W-UR	✓	✓	✓

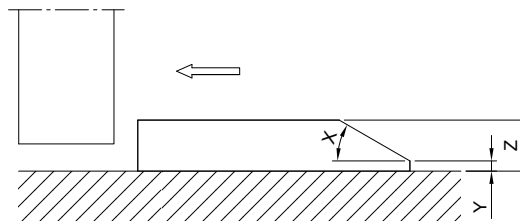
1) Hole diameter 9 mm



Escape routes and emergency exits:

- Bottom buffers and thresholds are not permitted for escape routes and emergency exits. Only half-round thresholds with a circular cross section and a maximum height of 5 mm are permitted. However, due to operational reasons half-round thresholds are not permitted in hospitals, nursing homes, etc. (risk of tripping, transportation of bed-ridden patients).
- Always observe valid health and safety regulations.
- A driver flap must be installed at double-leaf door systems with full panic equipment.
- With 2-leaf doors in escape and rescue routes according to EN 1125 with full panic function a special bottom tray is required.

- If the locking counterpart is not flush with the floor, it must not protrude more than 15 mm (Z) above the upper edge of the finished floor, it must be beveled in the direction of escape with a horizontal angle (X) of no more than 45 ° and no protrusion (Y) may exceed 3 mm.



- The hardware for escape doors and panic doors must meet the following requirements:

- Block locks, additional locks and locking elements are not permitted.
- Hardware, accessories, other locks and lock retainers must be labelled with a universal classification code.
- When retrofitting or replacing parts, the components must have a universal classification code.
- The doors must be regularly inspected and maintained.

- When using Knauf cylinders or digital lock cylinders, the anti-panic lock must provide respective free running.
- When using key-operated profile cylinders, the anti-panic function is only guaranteed when the key has been removed.



3.5 Protection classes

General

- The respective approval/test certificate can be viewed at www.teckentrup.biz/de/download/.
- Fire, smoke protection and burglar resistant doors are labelled with a name plate.
- Connecting steel bolts must be secured using the supplied connecting steel bolt clips.
- The owner is responsible for the perfect condition of the door.
- The installation bracket (if available), which keeps frame parts at the correct distance in the bottom section, must be removed immediately after installation.



Note:

The desired protection class can only be achieved if the specified requirements are fulfilled during installation.

If a door should achieve several protection classes, all the installation requirements must be fulfilled.

Fire doors (BS)

- Door modifications should only be carried out in accordance with the measures specified in the DIBt communication (Modifications for Fire Barriers; <http://www.teckentrup.biz/de/download/>).
- Only use hardware (also electrical), handle sets, locks and locking mechanisms which are approved for fire protection (verification of suitability, building authority test certificates). Observe the installation specifications in order to achieve the correct level of fire protection. The specifications are listed in the hardware, handle set, lock and locking mechanism documents. Components should only be replaced if it does not entail reworking the door. Please also note that the replaced parts must be approved parts for the specific door and supplied by Teckentrup.
- Fire doors must be fitted with profile cylinders (not included) or alternatively with hardware incl. a metal cover for both sides of the profile cylinder hole.
- Carry out installation in accordance with DIN 18093.
- The doors must close automatically.



3. General Information

- A counter frame is required for installation in autoclaved aerated concrete (exceptions see Table 1).
- Standard doors should only be installed up to a maximum height of 500 mm above the upper edge finished floor OFF (on both sides). For greater heights, the door leaf and frame must be rebated on four sides (manhole door).
- Use the supplied seal profiles.
- Fire doors should not be installed in outdoor areas.

Smoke protection doors (RS)



- Only use hardware (also electrical), handle sets, locks and locking mechanisms which are approved for smoke protection (verification of suitability, building authority test certificates). Observe the installation specifications in order to achieve the correct level of smoke protection. The specifications are listed in the hardware, handle set, lock and locking mechanism documents. Components should only be replaced if it does not entail reworking the door.
- Carry out installation in accordance with DIN 18093.
- The doors must be self-closing according to DIN EN 1154.
- Wall sealing joints must be sealed on one side using a permanently elastic sealing compound (e.g. acrylic).
- If the frame is mortared, the gap can be omitted of permanently elastic material.
- Smoke protection doors must be fitted with profile cylinders (not included).
- In addition to the wall types specified in the table, smoke protection doors can also be installed in the following wall types:
 - Installation wall F30A according to DIN 4102, Part 4, Table 48
 - Installation wall F30B according to DIN 4102, Part 4, Table 49
 - Installation wall F90B according to DIN 4102, Part 4, Table 49
 - Installation wall F30 according to ABP
 - Steel or wooden girders / supports which are not concealed
- When using a retractable bottom seal, the floor must be straight, even, smooth and firm. Alternatively, use a threshold onto which the bottom seal is lowered. Carpet is not permissible.
- The frame seals must be mitred and pushed close together at the connections.

Sound insulated doors



- The approved insulation value can only be achieved if all the areas (wall, floor, ceiling) have been planned correctly.
- The insulation values of walls, floors and ceilings must be 10 dB above the insulation value of the door.
- Moreover, there should not be any acoustic bridges.
- The surrounding components influence the entire sound insulation. The sound insulation of the wall and door must be verified separately, since it cannot be derived from the sound insulation value of the door.
- The doors must be equipped with profile cylinders.
- Plaster or a plastic sealing compound should be used to create the connection between the wall and the frame.
- Separate the screed in the threshold area.
- The specified sound insulation is achieved with only a bottom gap of a maximum of 10 mm in combination with a bottom seal. It is recommended to minimize the gap in the permitted tolerance range, as this has a significant influence on the sound insulation value.
- When using a retractable bottom seal, the floor must be straight, even, smooth and firm. Alternatively, use a threshold onto which the bottom seal is lowered. Carpet is not permissible.
- The frame seals must be mitred and glued together using an instant adhesive.



Security doors (RC)

- The burglar resistance of the door is only guaranteed when all the lock bolts are fully closed.
- The attack side must be determined prior to installation.
- With anti-panic doors, intrusion with a wire must be hindered, e.g., by a small bottom air gap or using a half-round threshold (see table 2 - gap dimension).
- The door must be equipped with hardware, glazing and cylinders according to the following table.
- For RC3 doors, set the gap between the rebate air restrictor and the door leaf / frame by inserting plates / washers under $\leq 1\text{mm}$.
- Use the supplied seal profiles.
- The following table displays the minimum wall thicknesses.

Table 6: Security door parameters

Parameter RC	RC 2	RC 3	RC 4
Masonry according to DIN 1053-1 DFK >> 12	115	115	240
Concrete according to DIN 1045-1 FK >> B15	100	120	140
Autoclaved aerated concrete blocks or high precision units according to DIN 4165-3, FK >> 4	170	240	
Profile cylinder according to DIN 18252 *	21-,31,71-BS/BZ	21-,31,71-BS/BZ	42-,82-BS/BZ
Security hardware according to DIN 18257	ES1	ES2	ES3
Glasses EN 356	P4A	P5A	P6B

*

BS = anti-drilling protection

BZ = anti-drilling and extraction protection

(extraction protection is not required if it is integrated in the security plate with cylinder cover)



Multi-purpose doors

- There are no further specifications for multi-purpose doors.

3.6 Installation at steel girders or steel supports

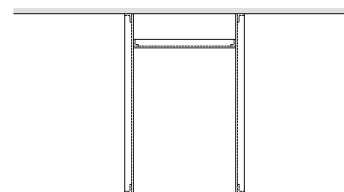
The quality of the construction must be F60 for T30 doors and F90 for T60 and T90 doors.

The cladding should be modified as little as possible during installation.

Concreting, plastering with mortar or bricking up the intermediate flange spaces is permissible (but not required for fire protection) (wall types / wall thickness see table 7)

3.7 Mounting at installation walls

- The profiles must be arranged as an H system, i.e. the vertical profiles should run continuously from the ceiling to the floor.
- The profiles must be screwed together at the floor and at the ceiling.
- Use reinforcement profiles (min. 50x40x2) or rectangular hollow sections (50x30x2) in the door opening area (at the sides and top).
- It is permissible that smaller cut-outs in the upright profile are statically compensated by welding or screwing on sheet metal strips of at least the same material thickness and a suitable length.
- Cladding is not permitted at the soffit on the face side.



3. General Information

Table 7 Installation wall and concealed supports (wall thickness in mm)

Proof of use	Type	Manufacturer	T30-1-42 T30-2-42	T30-1-62	T30-2-62	T30-1-62-ST T30-2-62-ST	T30-1-DF T30-2-DF	T60-1-62 T60-2-62	T90-1-62 T90-2-62	T90-1-DF T90-2-SV T90-2-DF
Installation walls F30-B										
DIN 4102 F30-B			88							
Installation walls F30-A				<<1350 *2500	<<2500 *2500					
DIN 4102 F30-A			88	88	88	88				
P-3854/1372	1 S 31	Fermacell		95	95	95				
P-3157/4012	W115, W116	Knauf	100	155	155	155				
P-3310/563/07	W112	Knauf		100	100	100				
P-3956/1013	3.40.04; 3.40.04-06; 3.41.01-04	Rigips	100	100	100	100				
Installation walls F60-B				<<1350 *2500	<<2500 *2500					
DIN 4102 F60-B				130	130	130				
Installation walls F90-A				<<1500 *3000	<<3000 *3000					
DIN 4102 F90-A				100	100	100	100	100	100	100
P-3854/1372	1 S 31	Fermacell	95							
P-3274/335/14	1 S 31	Fermacell					95			95
P-3157/4012	W115, W116	Knauf						100		
P-3310/563/07	W112	Knauf					100	100		100
P-3956/1013	3.40.04; 3.40.04-06; 3.41.01-04	Rigips					100	100		100
P-3202/2028	W353	Knauf	100	100	100	100	100			
P-3391/170/08	W131	Knauf							116	116
P-3391/0890	L18	Siniat							161	
P-3515/0519	L19	Siniat	150	150	150	150	150			
P-MPA-E-98-005		Siniat	100	100	100	100	100			
P-MPA-E-99-020	L12; L13; L14	Siniat		100	100	100		100	100	
P-MPA-E-99-021	L16	Siniat		100	100	100			100	
P-3255/1459	450.90	Promat							130	
P-3796/7968	450.95	Promat							142	
P-3912/6000	150.70	Promat	80	80	80	80				
P-MPA-E-98-099	450.70	Promat	84	84	84	84	84		84	
P-MPA-E-99-047	450.81	Promat	150	100	100	100	150	150	150	
P-3020/0109	6.70.10	Rigips							166	166
P-3021/0119	6.50.00	Rigips							130	
P-3213/2038	3.40.09	Rigips	150	150	150	150				

Proof of use	Type	Manufacturer	T30-1-42 T30-2-42	T30-1-62	T30-2-62	T30-1-62-ST T30-2-62-ST	T30-1-DF T30-2-DF	T60-1-62 T60-2-62	T90-1-62 T90-2-62	T90-1-DF T90-2-SV T90-2-DF
P-3014/1393	3.40.09	Rigips					150			
P-3696/6968	3.90.10	Rigips	125	125	125	125				
P-3700/7008	3.60.20	Rigips	100	100	100	100				
Concealed steel										
DIN 4102			F60	F60	F60	F60	F60	F90	F90	F90
P-3185/4549	415	Promat		F60	F60	F60				F90
P-3186/4559	415	Promat	F60	F60	F60	F60		F90	F90	F90
P-3193/4629	445	Promat	F60	F60	F60	F60		F90	F90	F90
P-3698/6989	415	Promat		F60	F60	F60		F90		F90
P-3738/7388	445	Promat	F60	F60	F60	F60			F90	F90
P-3802/8029	445	Promat	F60	F60	F60	F60				F90
P-3175/4649		Rigips	F60	F60	F60	F60	F60		F90	F90
P-3176/4659		Rigips	F60	F60	F60	F60	F60		F90	F90
P-3067/071/12			F60						F90	
P-3069/073/12			F60							
Concealed wood										
DIN 4102			F60	F60	F60	F60				
			>>120 *120							
P-3082/0729		Knauf	F60	F60	F60	F60				
P-3497/3879		Knauf		F60	F60	F60				
P-3198/0889		Promat	F60	F60	F60	F60				
P-3928/4649		Promat	F60	F60	F60	F60				
			>>100 *160							
P-3497/3879		Knauf	F60							

Table contains wall thicknesses / wall types of the individual wall types

3. General Information

3.8 Locks and hardware

**Reference:**

Always follow the installation instructions in the accessory packs!

Hold-open devices

Only use hold-open devices approved by a general building authority.

Installation, commissioning and maintenance are based on DIBt guidelines for hold-open devices and the manufacturer's approval information and installation instructions.

An acceptance test (executed by an authorized specialist) must be carried out after the installation of a hold-open device in order to determine correct functioning and installation. The owner is responsible for this test. The owner is also responsible for the perfect condition of the hold-open device; maintenance must be carried out at least once a month.

Furthermore, the owner must ensure that an annual inspection is carried out by an authorized specialist or an appropriately trained and qualified person.

The results of the annual inspection must be documented in an inspection log book. This document must be kept in a safe place by the owner.

Hinges

- If necessary, re-adjust the hinges.

Locks

- Locks must comply according DIN 18250 (EN 12209), RC (WK) according DIN EN 1627 table NA.1.

Glazing

- Glazing should only be replaced by an appropriately trained and qualified person.

Automatic closing at fire and smoke protections doors

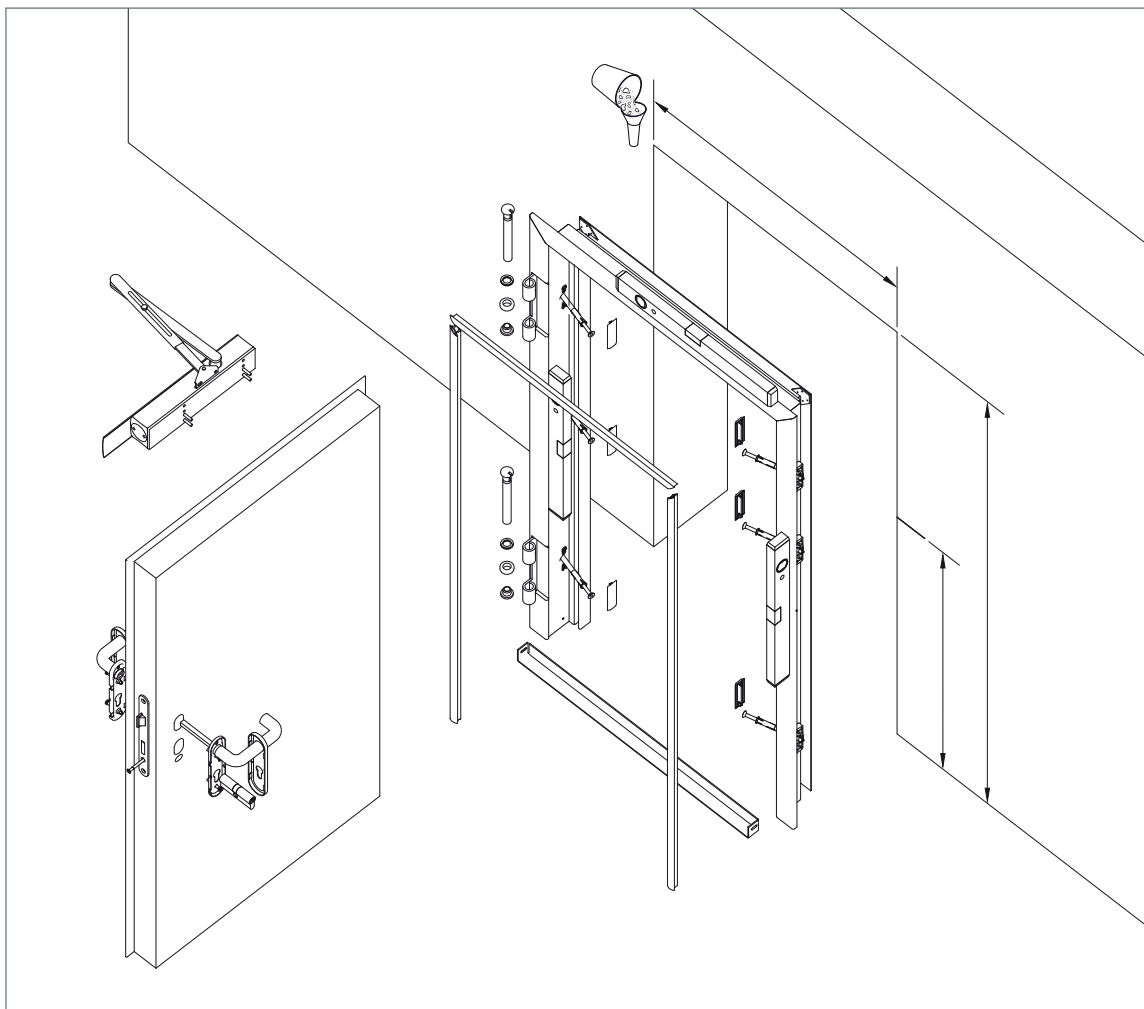
- Only use door closers in accordance with EN 1154 / EN 1155.
- When using integrated door closers, the upper gap between the door leaf and the frame must be 10 mm (+1/-1).
- A door closer can be retrofitted at doors which close automatically via a spring hinge if the closing function of the spring hinge is deactivated (the hinge bolt must be replaced with a corresponding replacement part without a spring). Door closers can be simply retrofitted on the hinge side (except: hatches <= modular dimension 1000x1000).
- A spring hinge in accordance with DIN 18272 should not be combined with the following features / equipment:
 - Smoke protection (except: hatches <= modular dimension 1000x1000)
 - Retractable bottom seal
 - Sliding threshold seal
 - Glazing
 - Leaf weight > 80kg
 - Double leaves
 - Electric door opener
 - Self-locking anti-panic locks
 - Mounting in installation walls and autoclaved aerated concrete (except: hatches <= modular dimension 1000x1000)
 - Hold-open devices

4.1 Installation sequence single-leaf doors

The standard installation sequence is described below.

Any alternative installation methods are described in the individual installation steps.

4.1 / 1



Order	Process	Reference
①	Installation preparations	Section 5.1
②	Marking the one metre level	Section 5.1
③	Frames parts factory connected	
④	Installation the frame	Section 5.5
⑤	Connecting the door and the frame	Section 5.4
⑥	Backfilling the frame	Section 5.6
⑦	Inserting the seals	Section 5.7
⑧	Installing and adjusting the floor connection / bottom seal	Section 5.8
⑨	Installing hardware	Section 5.9
⑩	Final work	Section 5.10

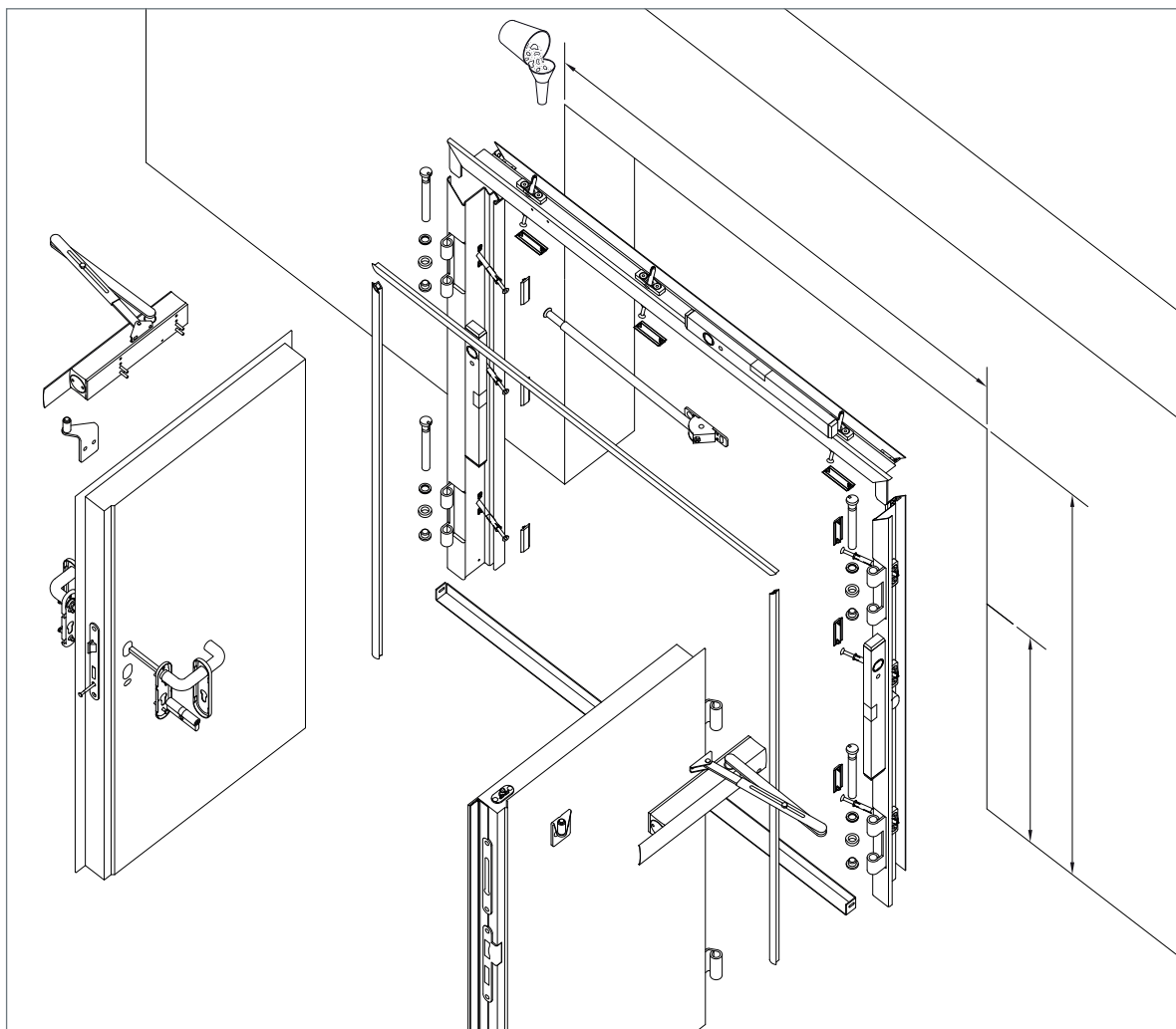
4. Installation Process

4.2 Installation sequence double-leaf doors

The standard installation sequence is described below.

Any alternative installation methods are described in the individual installation steps.

4.2 / 1



Order	Process	Reference
①	Installation preparations	Section 5.1
②	Marking the one metre level	Section 5.1
③	Screwing together the frame	Section 5.3
④	Installing the frame	Section 5.5
⑤	Connecting the door and the frame	Section 5.4
⑥	Backfilling the frame	Section 5.6
⑦	Inserting the seal	Section 5.7
⑧	Installing and adjusting the floor connection / bottom seal	Section 5.8
⑨	Installing hardware	Section 5.9
⑩	Final work	Section 5.10

5.1 Installation

The following points must be clarified prior to installation:

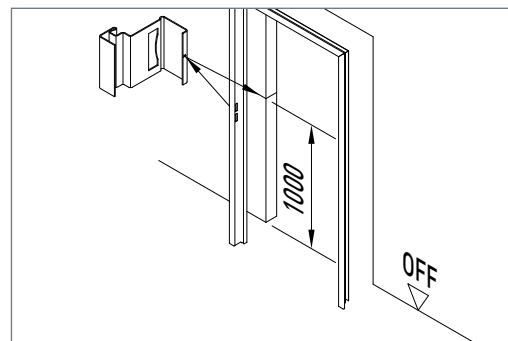
- Which protection classes should be achieved?
- Do you know and understand the existing building regulations?
- Which wall type is the door mounted on, does the door fit?
- Check opening dimensions and wall thickness (eg for U-frame).
- Which wall type is the door mounted on, does the door fit?
- Check opening dimensions and wall thickness (eg for U-frame).
- Do you know the height of the finished floor?
- If the opening has sufficient space for the protective box of the frame, it must be stowed in the wall opening (the protective boxes must not be removed to ensure the function of the door?)
- Which anchor types will be used?
- Which floor connection will be used?
- Which accessory parts should be used?
- In which direction should the door open?

Marking the one metre level

The metre level specified by the customer must be transferred to the wall opening.

- Mark the one metre level in the opening.
- When mounting the frame, align the marking on the frame (on the frame edgefolding) with the drawn metre level.

5.1 / 1



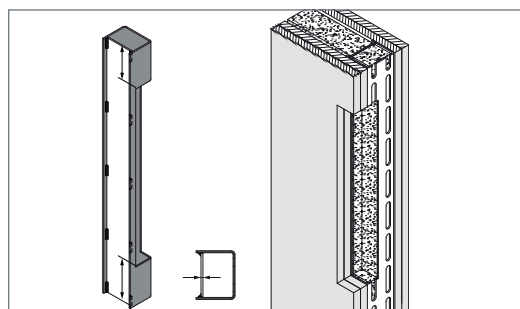
5.2 additional installation preparations (to 5.1) for installation walls

If necessary, the wall must be cut out according to recesses for the protective boxes. The cutouts may be cut out to the extent necessary. The cut-outs must be reinforced on-site to restore the on-site statics.

5.2 / 1

5.2.1 when building the wall

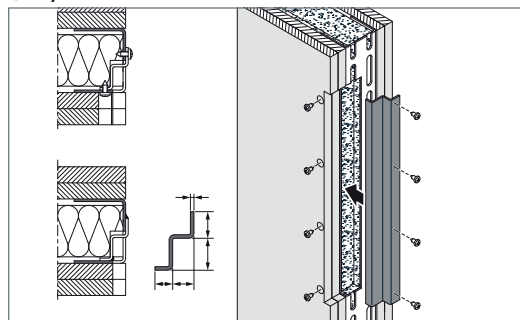
- Cut out profile.
- Weld in a metal strip / edge profile > 2mm.



5.2.2 after building the wall

- Cut out profile.
- Rivet a metal strip / edge profile > 2mm.

5.2 / 2

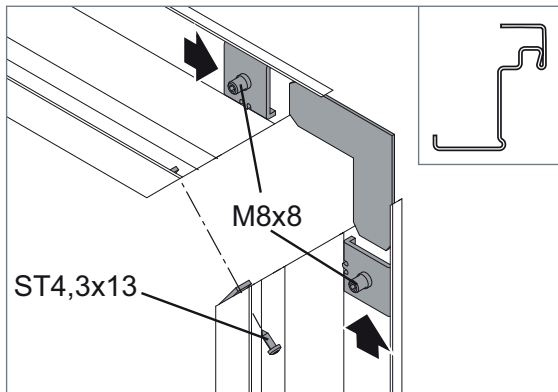


5. Installation

5.3 Screwing together the frame

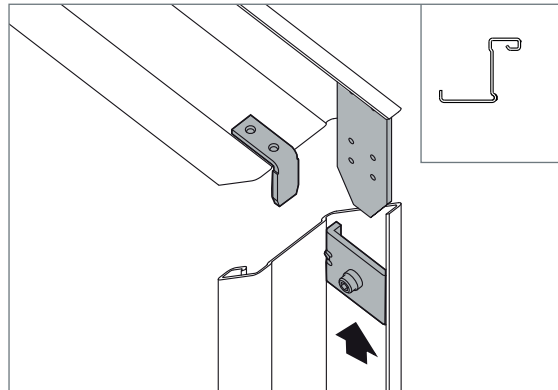
5.3.1 Corner frame version 1

5.3.1 / 1



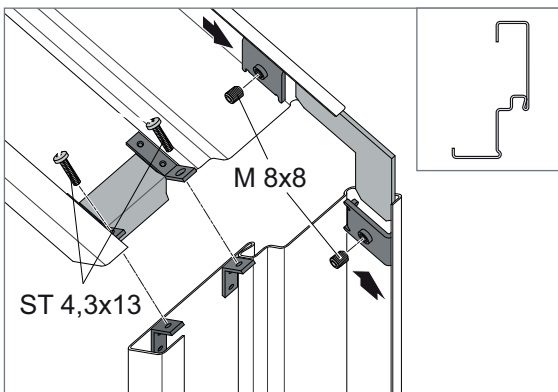
5.3.2 Corner frame version 2

5.3.2 / 1



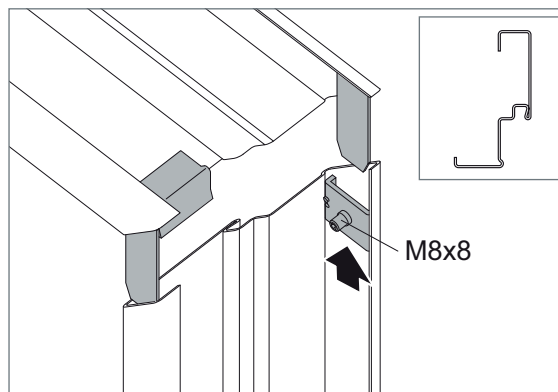
5.3.3 Closed frame version 1

5.3.3 / 1



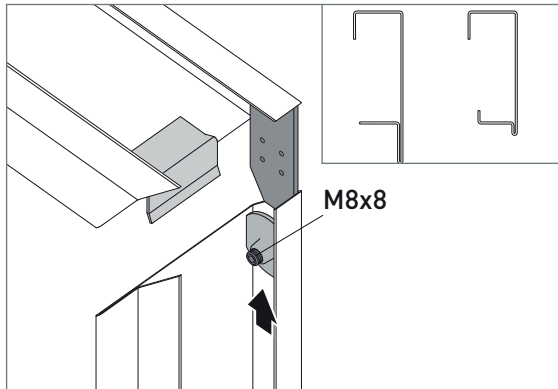
5.3.4 Closed frame version 2

5.3.4 / 1



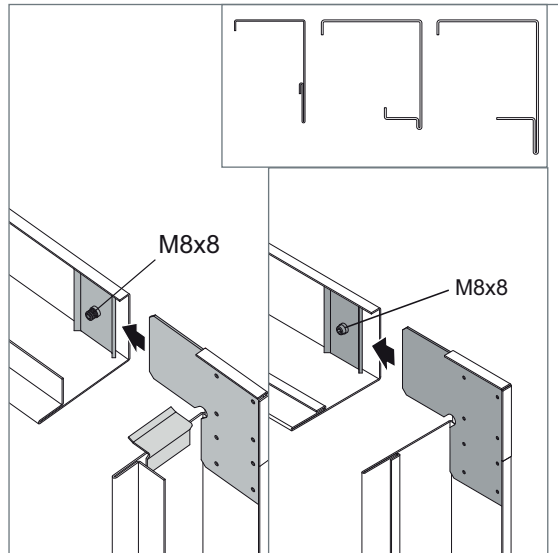
5.3.5 Counter frame

5.3.5 / 1



5.3.6 Clasping counter frame (2 parts)

5.3.6 / 1



5.3.1 – 5.3.6

- Interconnect the frames
- Screw the frames together

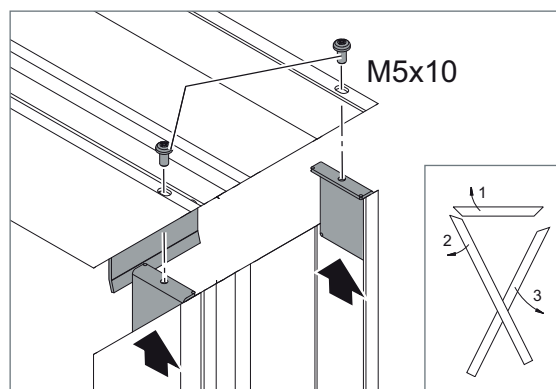


5.3.7 Closed frame

The frame type „clasping closed frame“ must be assembled in the opening.

- Place the upper frame part in the wall opening.
- Insert the frame side parts into the upper frame part.
- Screw the frames together.

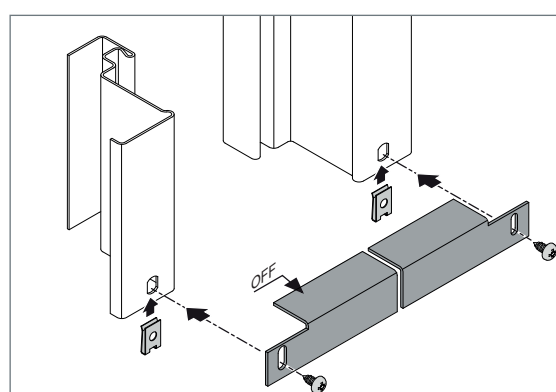
5.3.7 / 1



5.3.8 Floor bracket with floor recess

- Place the floor bracket to the frame.
- Screw the floor bracket to the frame.

5.3.8 / 1

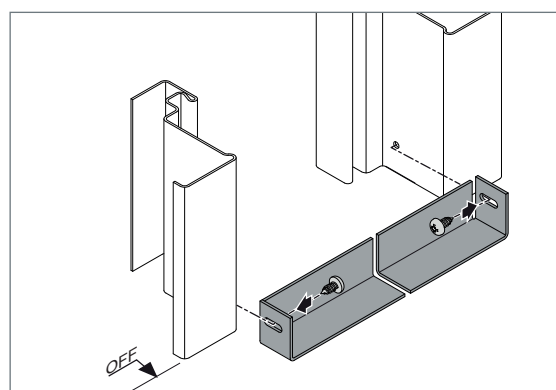


5.3.9 Floor bracket without floor recess

- Place the floor bracket to/between the frame.
- Screw the floor bracket to the frame.

There are two floor bracket types (5.3.9 /1 und 5.3.9 /2)

5.3.9 / 1



Note:

The floor bracket is an installation aid and must be removed after door installation.

5. Installation

5.4 Door and frame disassemble / assemble



Attention!

Always make sure that pre-assembled bottom seals in the doors are not damaged. (see section 5.8 Bottom seals).



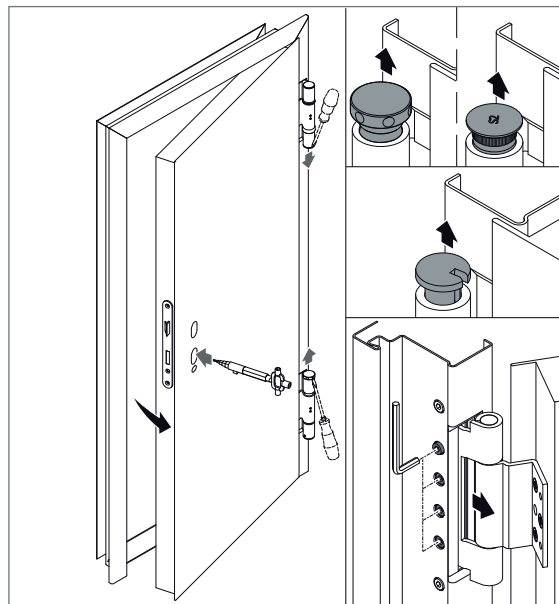
Note:

- Lubricate the hinge bolts slightly prior to insertion.
- Depending on the design, each door leaf can be fitted with (A):
 - a ball bearing,
 - two ball bearings
- Some doors are supplied with spacers (F) in order to adjust the height of the door leaf.
- When using these spacers, adhere to the gap dimensions specified in table 3.

Disassembly of 1-leaf doors

- Doors in 1-leaf version are delivered with mounted frame to save space. Before fixing the frame to the masonry, it must be separated from the door leaf.

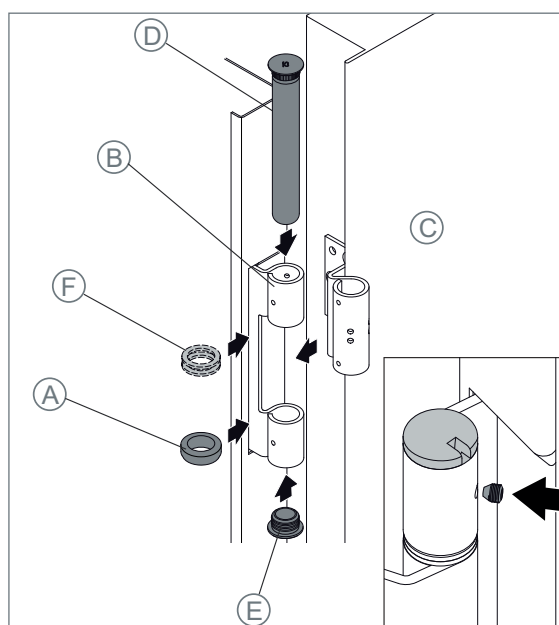
5.4 / 1



Hinge bolt (hollow/solid (flat head))

- Place the ball bearings (A) on the frame hinges (B).
- Place the door leaves (C) on the ball bearings (A). Slide the hinge bolts (D) into the frame hinges (B).
- To lift the door leaf, place the required number of washers (F) directly onto the bearing (A) during assembly. Place unneeded washers over the inner hinge section (reserve).
- Attach cover (E).

5.4 / 2



Note:

Depending on the available space, the hinge bolt can also be inserted into the frame hinge (B) from the bottom.

- Additional hinge bolt safety (threaded pin [see also Fig. 5.4 / 5]) Hollow hinge bolts do not need to be secured because they are self-locking.



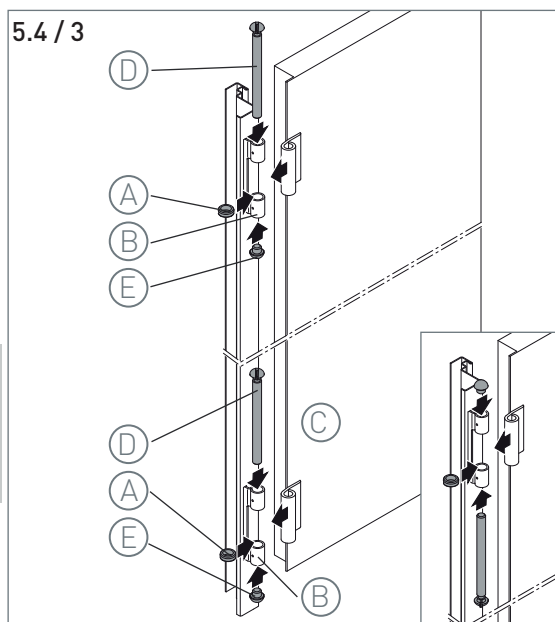
Hinge bolts (solid)

- Place the ball bearings (A) on the frame hinges (B).
- Position the door leaf (C) on the ball bearings (A).
- Insert the hinge bolts (D) into the frame hinges (B) from the top.
- Insert the counterpiece (E) into the hinge.

**Note:**

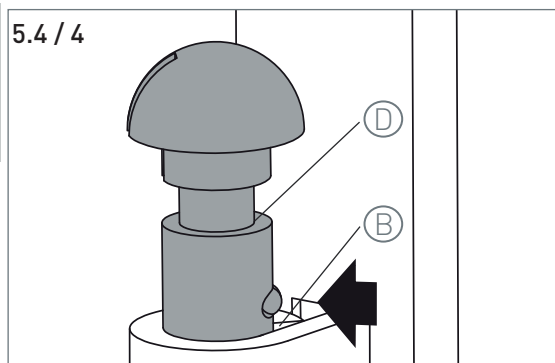
Depending on the available space, the hinge bolt can also be inserted into the frame hinge from the bottom.

5.4 / 3

**Note (for hinge bolts with notch):**

The hinge bolt (D) must be inserted so that the notch is positioned away from the frame in the frame hinge (B).

5.4 / 4

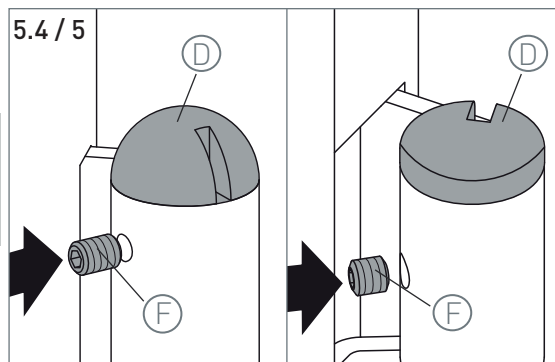
**Securing the hinge bolt**

- Use a set screw (F) to secure the hinge bolts (D).

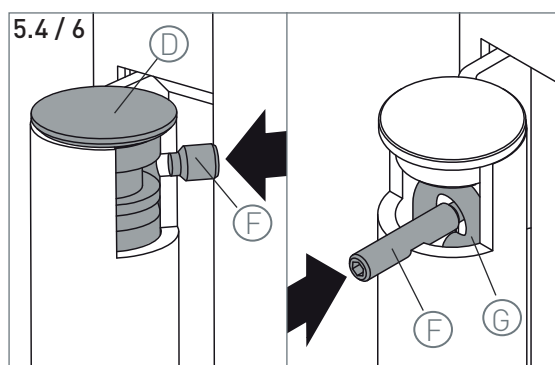
**Note:**

Hollow hinge bolts are self-locking and do not have to be secured separately.

5.4 / 5



5.4 / 6



Security door hinge bolts do not have to be additionally secured.

**Construction hinge (KO)**

- Insert the set screw (F) until it engages in the hinge bolt (D).

Spring hinge (FE)

- Insert the set screw (F) so that it fixes the spring (G) in position.

5. Installation

It must be ensured that the set screw cannot be removed from security door hinges.



Note:

Secure the set screw against removal by tapping a brass pin / steel ball into the set screw or by applying a weld spot.

- Secure the set screw.

3D-hinges (VX)

- Slightly loosen the clamping screws (A).
- Remove the spacer (B).
- Insert the frame part (C) into the hinge retainers.
- Screw the clamping screws (A).



Attention!

The frame part (C) must be inserted between the clamping pieces (D) and (E).

3D-hinges (VN)

- Slightly loosen the clamping screws (A)
- Remove the spacer (B).
- Insert the frame part (C) into the hinge retainers.
- Screw the clamping screws (A).



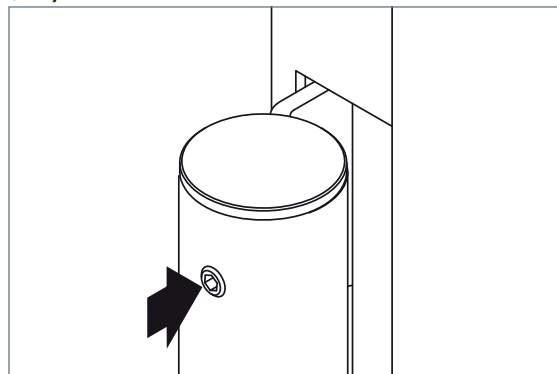
Attention!

The frame part (C) must be inserted between the clamping pieces (D) and (E).

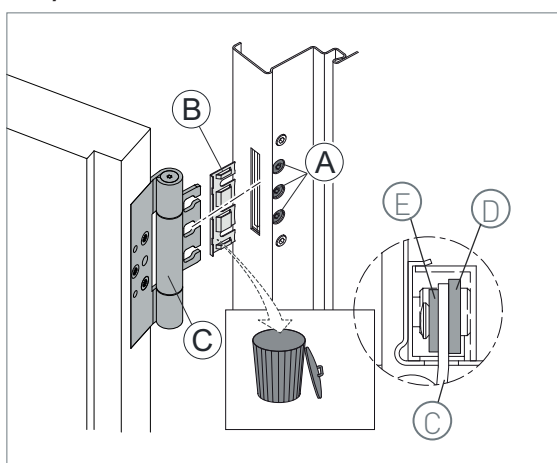
security doors

- Loosen all clamping screws (A) (see section 5.4 / 9).
- Completely unscrew the two outer clamping screws (F).
- Insert the frame part (C) into the hinge retainer.
- Screw the clamping screws (F) back in and tighten all clamping screws (A).

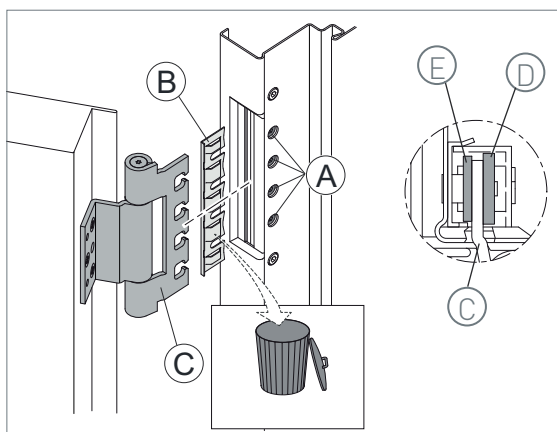
5.4 / 7



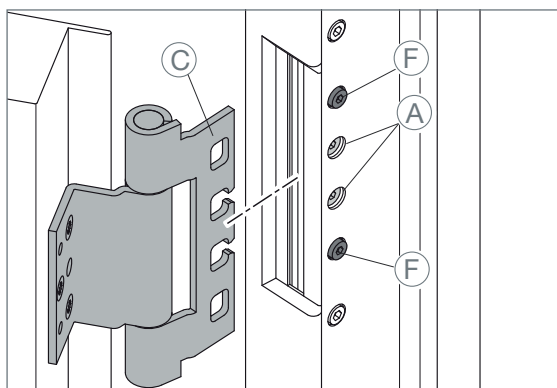
5.4 / 8



5.4 / 9



5.4 / 10



5.5 Installing the frame

- Position the frame in the opening.

**Reference:**

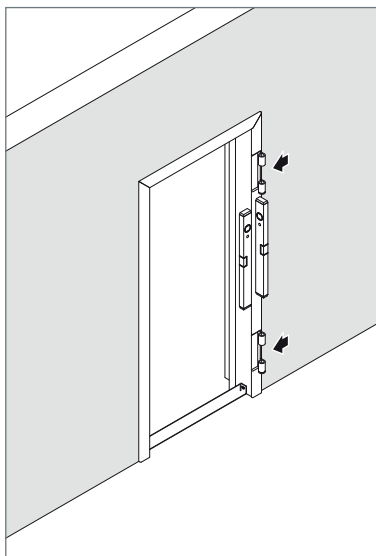
At the meter level (see section 5.1) align.

**Reference:**

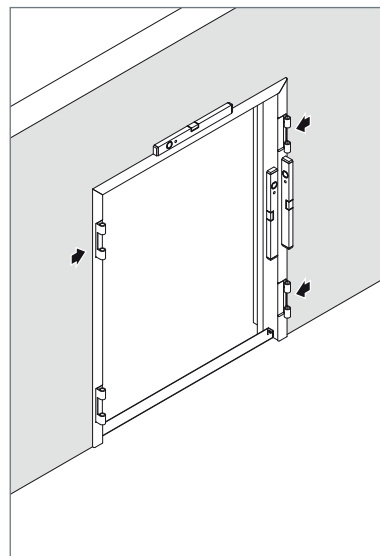
Note section 3.4.

- Attach the frame to the marked points.

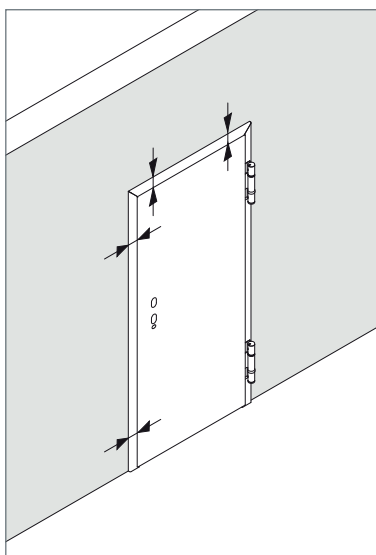
5.5 / 1



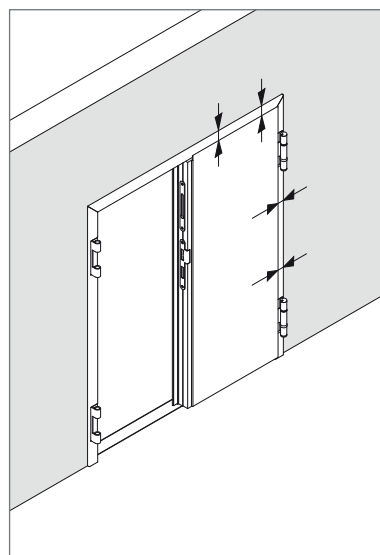
5.5 / 2



5.5 / 3

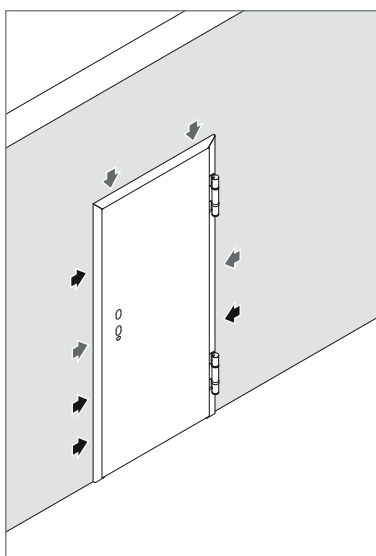


5.5 / 4

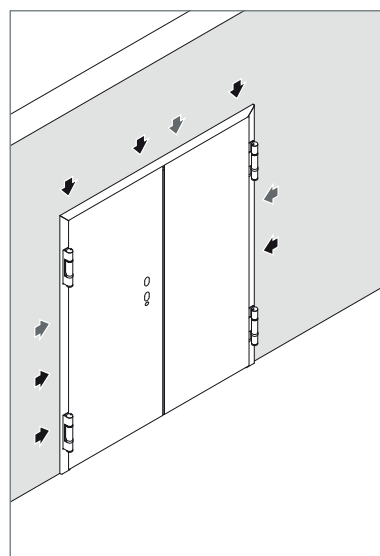


- Align the frame to all sides.
- Secure the position with wedges or adjusting screws.
- Install the door leaves.
- Check the required distances and gap dimensions (see section 3.4 Tab. 3).
- Place the door leaf against the frame.

5.5 / 5



5.5 / 6



- Attach the aligned frame to the remaining attachment points.

**Reference:**






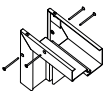

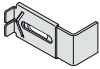

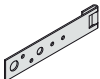
Refer to Section 3.4 for wall plug installation.

**Note:**

The wall plug must expand parallel to the opening edge.










5. Installation

Frame fixing overview

Anchors	Designation	Masonry Concrete	Autoclaved aerated concrete	Installation wall	Steel construction
	SMW (Type 1)	5.5.1.1	5.5.1.1	5.5.3.1	5.5.5.1
	SMW (Type 2)	5.5.1.2	5.5.1.2	-	-
	Wall anchor with wall plugs	5.5.1.3	-	-	-
	Wall anchor with mortar	5.5.1.4	-	-	-
	LBW mounting plates	-	-	5.5.3.3	-
	LBW screwed UZ	-	-	5.5.3.5	-
	Anchor bracket with wall plugs	-	5.5.2.3	-	-
	SMW (Type 3) (sliding anchor)	5.5.1.5	-	-	5.5.5.2
	SMW fold anchor UZ/GZ	5.5.7.1	5.5.7.1	-	5.5.7.1
	Push anchor UZ/GZ	5.5.1.4	-	-	5.5.6.2

Legend:

SMW = exposed masonry / exposed concrete
 LBW = installation wall
 GZ = counter frame
 UZ = closed frame

	Block frame		Masonry Concrete	Autoclaved aerated concrete	Installation wall	Steel construction
	Type 1.1	Disassembled	5.5.8.2	5.5.8.2	-	5.5.8.2
	Type 1.2	Disassembled	5.5.8.3	5.5.8.3	-	5.5.8.3
	Type 2.1	Disassembled	5.5.8.4	5.5.8.4	-	5.5.8.4
	Type 2.2	Disassembled	5.5.8.5	5.5.8.5	-	5.5.8.5
	Type 3	Pre-assembled	5.5.8.6	5.5.8.6	-	5.5.8.6
	Type 4.1 Type 4.2	Pre-assembled	5.5.8.7	5.5.8.7	5.5.4.	5.5.8.7
	Type 5.1	Pre-assembled	5.5.8.8	5.5.8.8	-	5.5.8.8
	Type 5.2	Pre-assembled	5.5.8.8	5.5.8.8	-	5.5.8.8
	Type 5.3 Type 5.3 L	Pre-assembled	5.5.8.8	5.5.8.8	-	5.5.8.8

5. Installation in masonry, concrete and autoclaved aerated concrete

5.5.1 Corner and closed frame



Reference:

The rear attachment of the closed frame is described in Section 5.5.6.



5.5.1.1 SMW (Type 1)

- Use adjusting screws (A) to fix the frame.

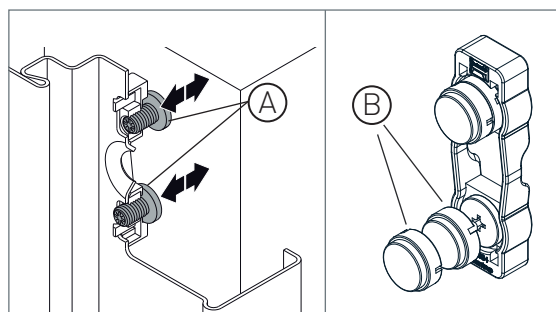


Note:

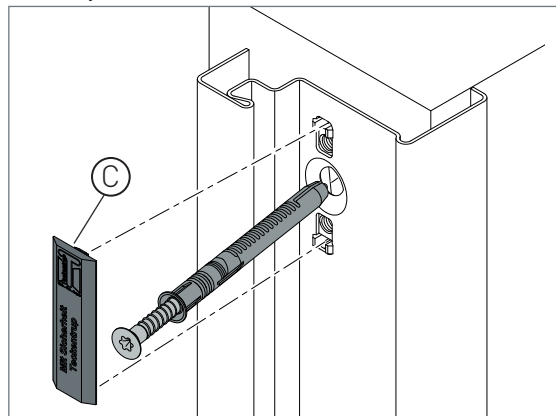
- If necessary, use the adjusting screw extensions (B).
- Always observe the factory set anchor positions.

- Screw the frame to the wall in the correct sequence at the specified fixing points.
- Minimum wall plug length:
 - masonry/concrete: 100mm
 - autoclaved aerated concrete: 160mm
- Place the cover (C) over the frame holes.

5.5.1.1 / 1



5.5.1.1 / 2



Referende:

- The anchor positions are described in Table 2.
- The sequence is described in Section 5.5.
- The recommended wall plugs are described in Section 3.4.



5.5.1.2 SMW (Type 2)

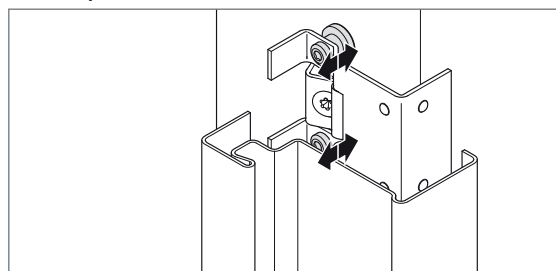
- Use adjusting screws (A) to fix the frame.



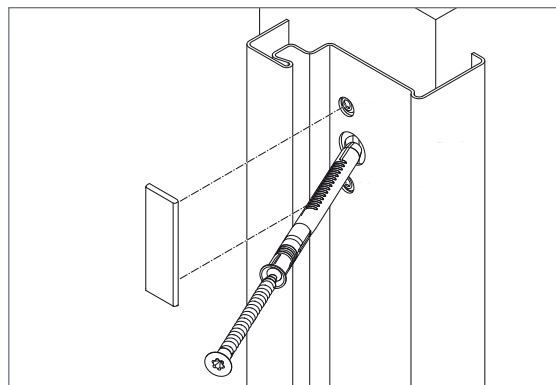
Note:

- Always observe the factory set anchor positions.
- Screw the frame to the wall in the correct sequence at the specified fixing points.
- Minimum wall plug length: 160 mm
- Place the cover (b) over the frame holes.

5.5.1.2 / 1



5.5.1.2 / 2



Reference:

- The anchor positions are described in Table 2.
- The sequence is described in Section 5.5.
- The recommended wall plugs are described in Section 3.4.



5.5.1.3 Wall anchor with

- Sand the wall anchors.



Note:

- Always observe the factory set anchor positions.
- When installing extremely heavy doors, secure the frame against twisting by welding on spacers (C).

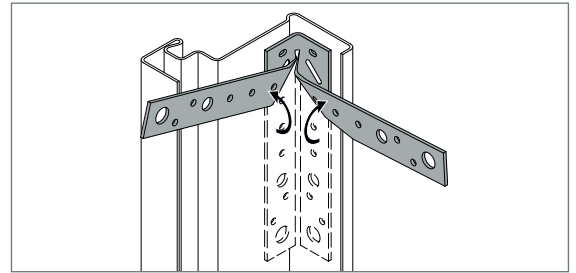
- Screw the frame to the wall in the correct sequence at the specified fixing points.
- Minimum wall plug length: 100 mm



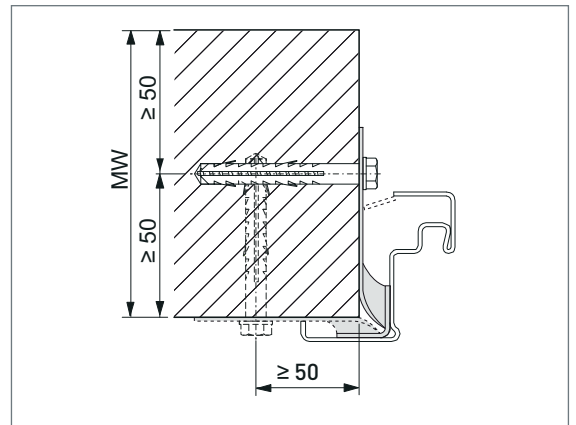
Reference:

- The anchor positions are described in Table 2.
- The sequence is described in Section 5.5.
- The recommended wall plugs are described in Section 3.4.

5.5.1.3 / 1



5.5.1.3 / 2



5.5.1.4 Wall anchor with mortar



Note:

Always observe the factory set anchor positions.

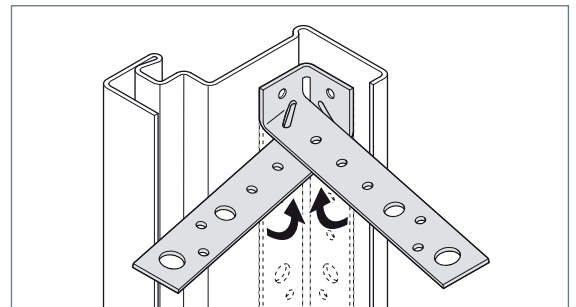
- Bend the wall anchors.
- Embed the wall anchors in mortar.



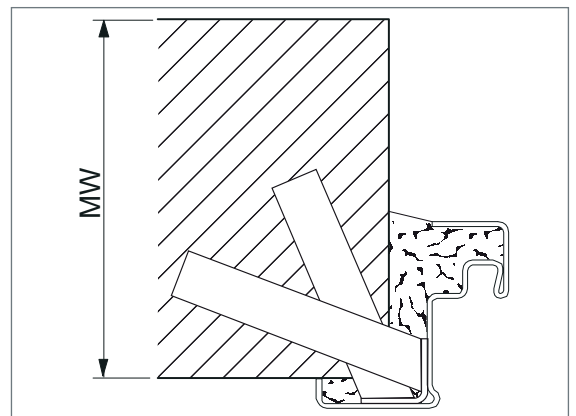
Note:

Allow the mortar to cure before proceeding.

5.5.1.4 / 1



5.5.1.4 / 2



5. Installation in masonry and concrete



Additional push anchor at closed frame and counter frame

- Connect the counter frame (B) (not required for closed frame).
- Position the push anchor (A) on the counter or closed frame.
- Bend the push anchor (A).
- Screw the push anchor (A) into position.

Fastening material

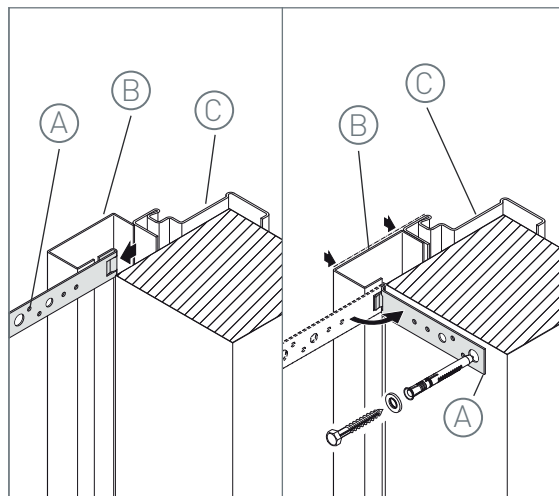
Fischer S 10 H 100 RSS



Reference:

The anchor positions are described in Table 2.

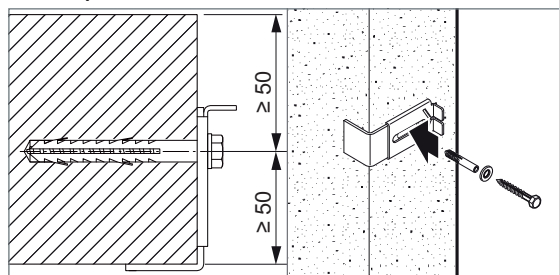
5.5.1.4 / 3



5.5.1.5 SMW (Type 3)

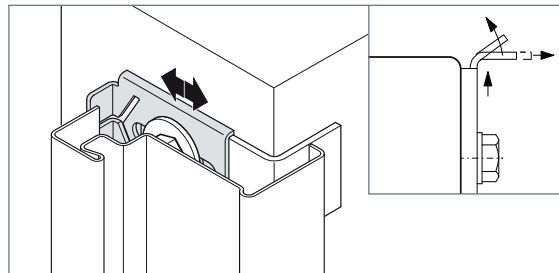
- Screw the anchors to the wall at the specified fixing points.
- Minimum wall plug length: 100 mm

5.5.1.5 / 1



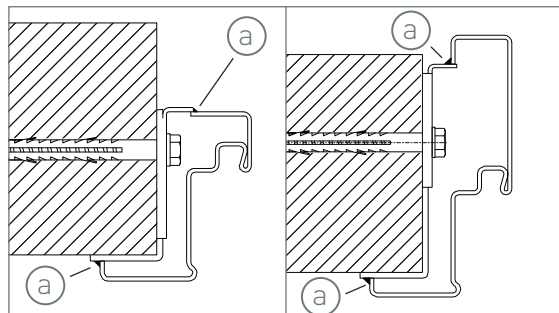
- Set the anchors according to the frame depth.

5.5.1.5 / 2



- Weld the frame to the anchors in the specified sequence.
- Weld seam length (a) > 20 mm

5.5.1.5 / 3



Reference:

- The anchor positions are described in Table 2.
- The sequence is described in Section 5.5.
- The recommended wall plugs are described in Section 3.4.

5. Installation in autoclaved aerated concrete and installation wall



5.5.2.3 Anchor bracket with wall plugs

- Anchor brackets must be used for a counter of closed frame.



Reference:

Exceptions are described in Table 1.

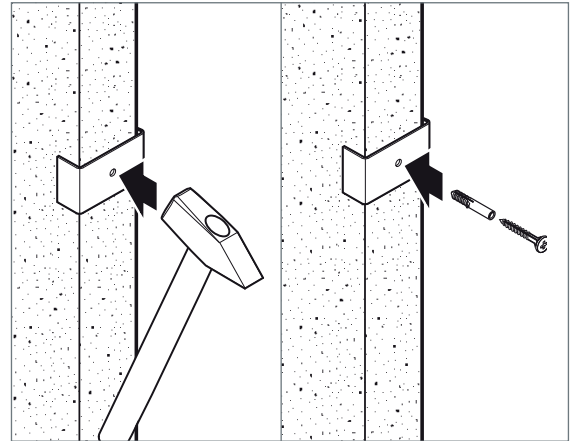
- Attach the anchor brackets to the wall at the specified fixing points.
- Drill through the anchor bracket into the wall.
- Screw the anchor bracket to the wall.
- Minimum wall plug length: 100 mm
- Weld the frame with a spacer (C) onto the anchor bracket in the correct sequence.
- Weld seam length (a) > 20 mm



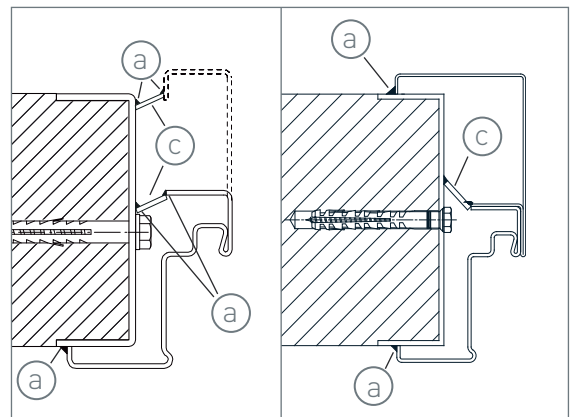
Reference:

- The anchor positions are described in Table 2.
- The sequence is described in Section 5.5.
- The recommended wall plugs are described in Section 3.4.

5.5.2.3 / 1



5.5.2.3 / 2



5.5.3 Corner and closed frame at installation wall

5.5.3.1 LBW screwed EZ

- Use adjusting screws (A) to fix the frame.



Note:

Always observe the factory set anchor positions.

- Screw the frame to the wall in the correct sequence at the specified fixing points.

Fastening material

6.3 x 50 sheet metal screws.

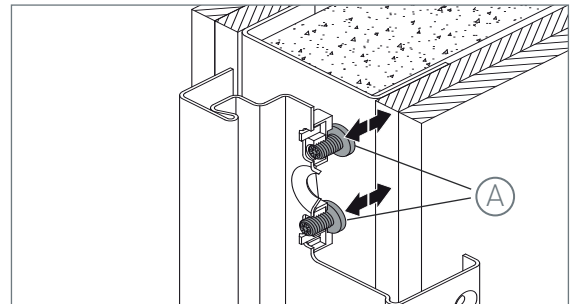
- Place the cover (B) over the frame holes.



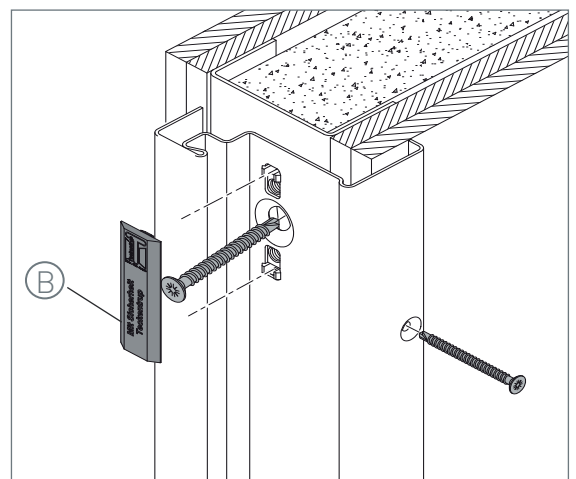
Reference:

- The anchor positions are described in Table 2.
- The sequence is described in Section 5.5.

5.5.3.1 / 1



5.5.3.1 / 2

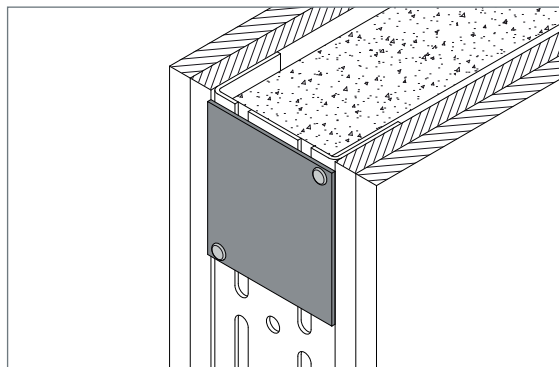


5. Installation in installation wall

5.5.3.2 LBW mounting plates

- In case of unfavorable fastening conditions at the fixing points, apply 3mm thick steel mounting plates to the steel substructure.

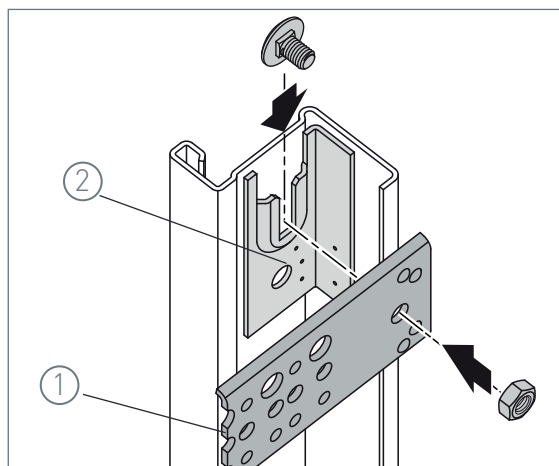
5.5.3.2 / 1



5.5.3.3 LBW mounting plates

- Screw the mounting plates (1) to the brackets (2) of the frame.

5.5.3.3 / 1

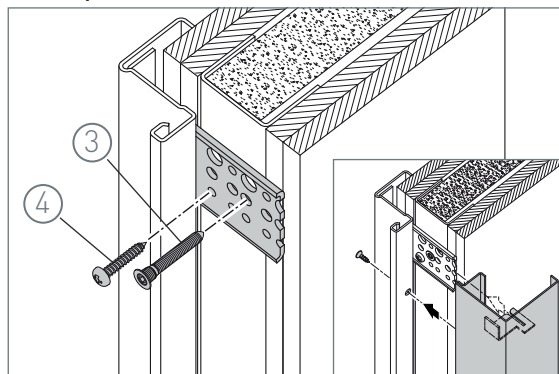


Note:

Always observe the factory set anchor positions.

- Place the frame in the wall opening, align and fasten in the order named to the wall profiles using the adjusting screws (3) (pre-drill $\varnothing 5.5$).
- Align the frame with adjusting screws (3).
- Fix anchor additionally with self-tapping screws (4), backfill frame with mineral wool.
- Place the counter frame (if present) against the corner frame in the opening and screw in with self-tapping screws 4.2x16.

5.5.3.3 / 2



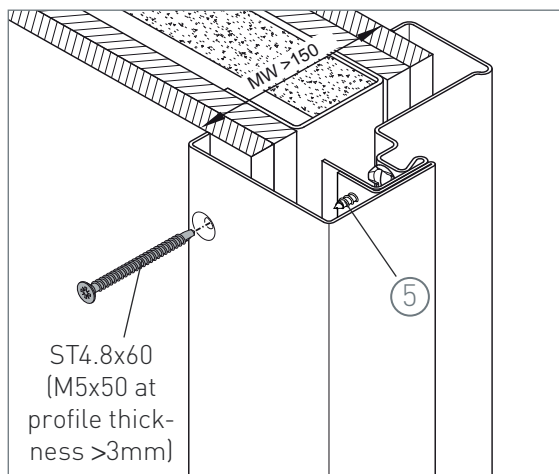
Reference:

The anchor positions are described in Table 2.
The sequence is described in Section 5.5.

5.5.3.4 LBW screwed EZ with GZ

LBW = lightweight construction stud wall /
EZ = corner frame / GZ = counter frame

5.5.3.4 / 1



Reference:

Fixing the corner frame see section 5.5.3.1

- Set the counter frame against the corner frame.
- Screw with self-tapping screws (5) 4.2x16 in the sealing groove.
- If prepared screw back rear frame part.

5.5.3.5 LBW screwed UZ

- Insert the frame backfill into the frame profiles.
- Place the upper frame part in the opening.
- Insert the side parts of the frame into the upper part of the frame.
- Screw the corner corners.



Note:

Always observe the factory set anchor positions.

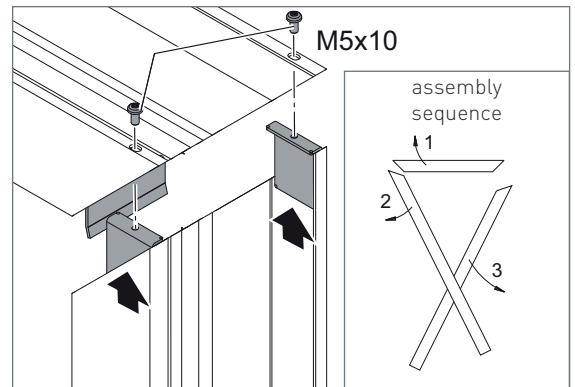
- Screw the front and rear frame piece to the wall profile.

Fastening material

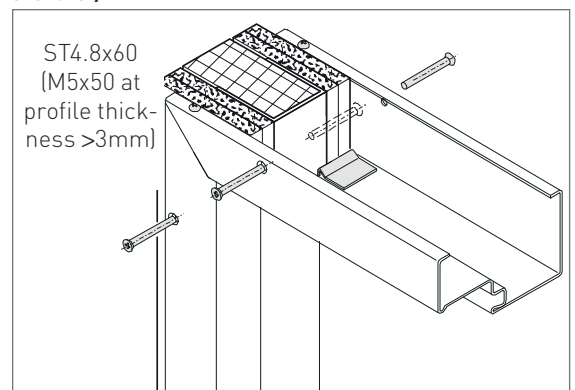
4.8 x 60 sheet metal screws

(M5 x 50 for profile thicknesses > 3 mm)

5.5.3.5 / 1



5.5.3.5 / 2

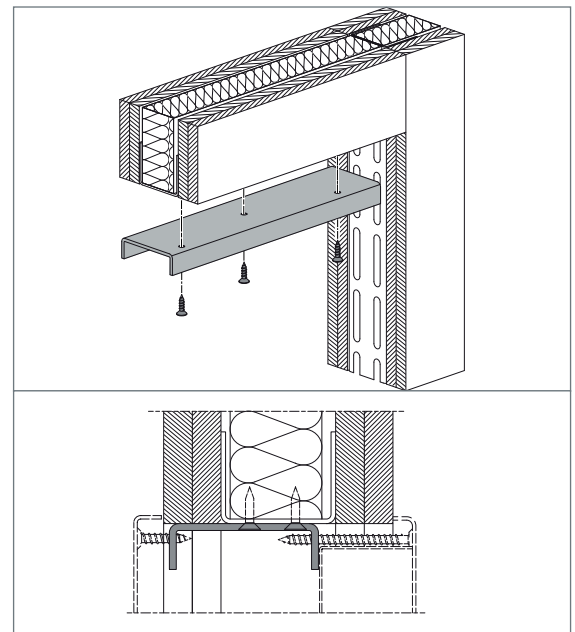


5.5.3.6 LBW-Montage ITS

ITS = integrated door closer

- Use of a sub-auxiliary U-profile on the lintel of the stud wall as a mounting aid.

5.5.3.6 / 1



5. Installation block frame in installation wall

5.5.4 Block frame (Type 4.1) at installation wall

5.5.4.1 Wall thickness from 125 to 160 mm

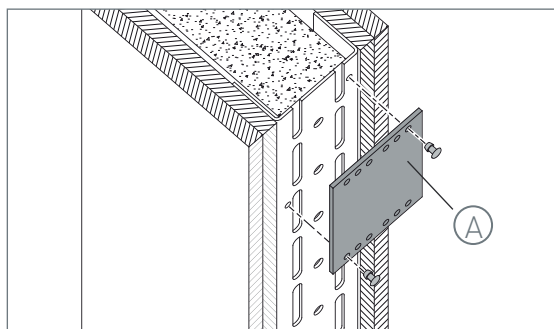
- Attach the mounting plates (A).
- Screw the block frame to the wall in the order named.

Fastening material

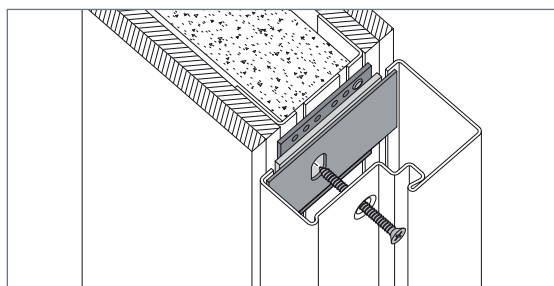
Rivet: 4 mm

Steel metal screws: 6.3x70 mm

5.5.4.1/ 1



5.5.4.1/ 2



5.5.4.2 Wall thickness from 161 mm

- Attach the mounting plates (B) + (C)
- Screw the block frame to the wall in the order named.
- Put on the cover caps (D).

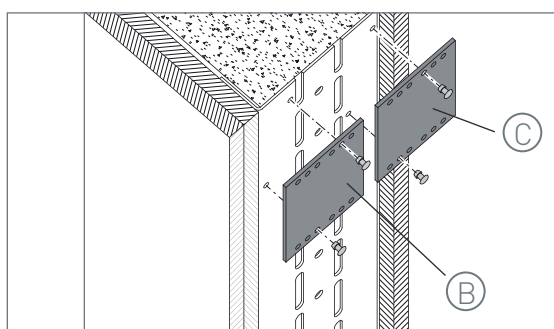
Fastening material

Rivet: 4x14 mm

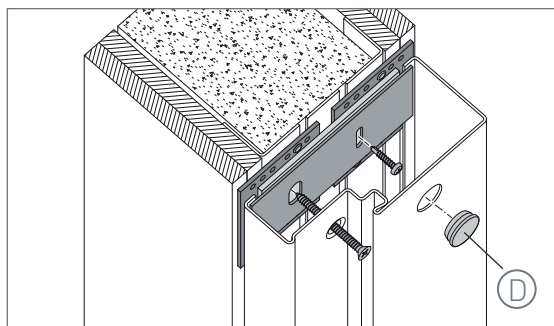
Sheet metal screws: 6.3x70 mm

Sheet metal screws: 4.8x25 mm

5.5.4.2/ 1



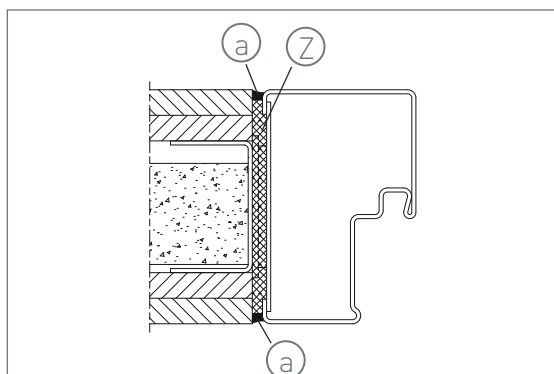
5.5.4.2/ 2



5.5.4.3 Backfilling the gaps

- Fill in the gaps with mineral wool (Z).
- Seal the wall sealing joints with B1 acrylic sealant (a).

5.5.4.3/ 1



Note:

- Always observe the factory set anchor positions.
- In the area of the mounting plates pressure-resistant backfill

5.5.5 Concealed steel girders



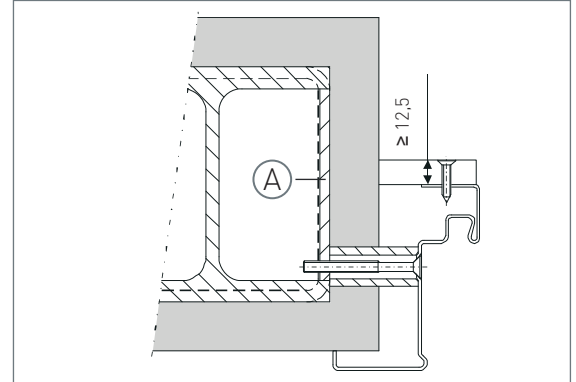
Reference:

Refer to Section 3.6 when installing the frame at concealed steel girders.

The described installation methods are used to illustrate the principle.

There must be a flange area of the girder available at the fixing points; otherwise junction plates min. 40 x 5 (A) must be welded on by the customer. Spacer sleeves must be inserted between the frame and the steel girder. This involves drilling through the cladding.

5.5.5 / 1



Note:

When using corner frames, the supplied gypsum board strip must be screwed to the rear.



5.5.5.1 SMW (Type 1)



Note:

Always observe the factory set anchor positions.

- Screw the frame to the wall in the correct sequence at the specified fixing points.

Fastening material

M6 x ... countersunk screw (the length depends on the cladding thickness of the support)



Reference:

- The anchor positions are described in Table 2.
- The sequence is described in Section 5.5.
- The recommended wall plugs are described in Section 3.4.



5.5.5.2 SMW (Type 3)

- Screw the sliders to the wall.
- Set all sliders appropriately.
- Weld the frame to the sliders.

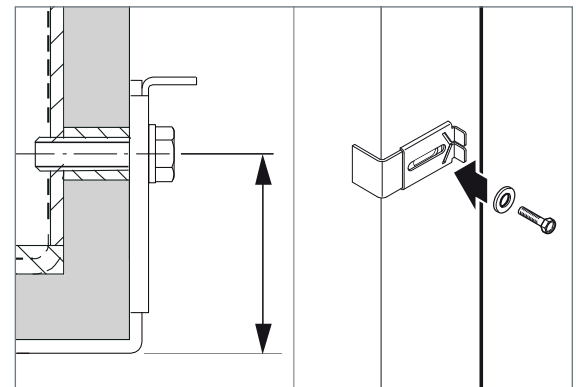
Fastening material

M6 x ... countersunk screws

(the length depends on the cladding thickness of the support)

Weld seam length (a) > 20 mm

5.5.5.2 / 1



Reference:

The principle of "SMW (Typ 3)" installation is described in Section 5.5.1.4.

5. Installation - Assembly 2-shell frames

5.5.6 Counter frame and corner frame assembly

5.5.6.1 Screwed counter frame

**Note:**

When using mineral wool or gypsum board, it must be inserted prior to connection.

When using mortar, it is applied after screwing parts together.

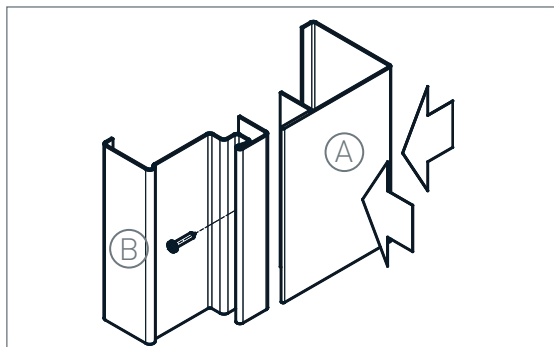
- Position the counter frame (A) in the opening.
- Align the counter frame (A) to the corner frame (B).
- Connect the counter frame (A) to the corner frame (B).

Fastening material

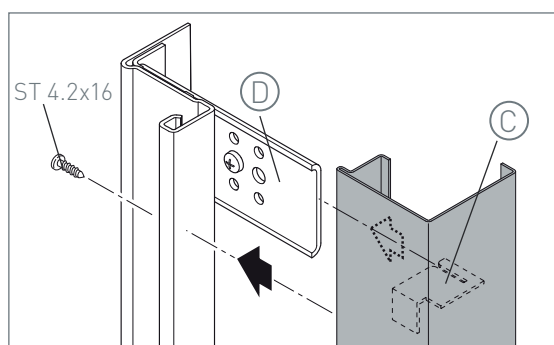
4.2 x 16 sheet metal screws at 42-door leaf thickness

4.8 x 38 sheet metal screws at 62-door leaf thickness

5.5.6.1 / 1



5.5.6.1 / 2

**Note:**

- Always observe the distances specified by the manufacturer.
- The connectors (C) and (D) are special components and only required for attachment to installation walls.

5.5.7 Counter frame and closed frame installation

**Note:**

The section describes the installation of the rear frame piece.



5.5.7.1 Fold anchor

Installation in masonry / concrete / autoclaved aerated concrete

- Screw the fold anchor to the wall.

Fastening material

10 mm plastic wall plug with corresponding screw

**Reference:**

The anchor positions are described in Table 2.

- Install the closed frame (only if closed frame is available).
- Adjust the fold anchor so that it snaps into place in the plaster angle.
- Open the fold anchors (1).
- Position the counter frame on the corner frame and connect them (only if counter frame is available).

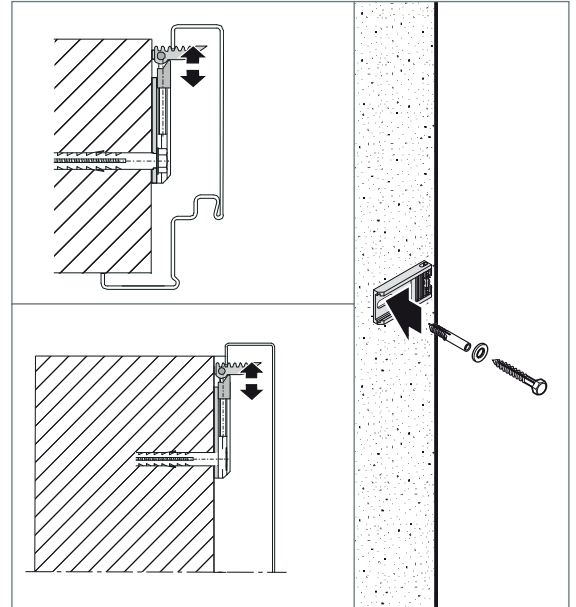
**Reference:**

The counter frame and corner frame connection is described in Section 5.5.6.1 and 5.5.6.2.

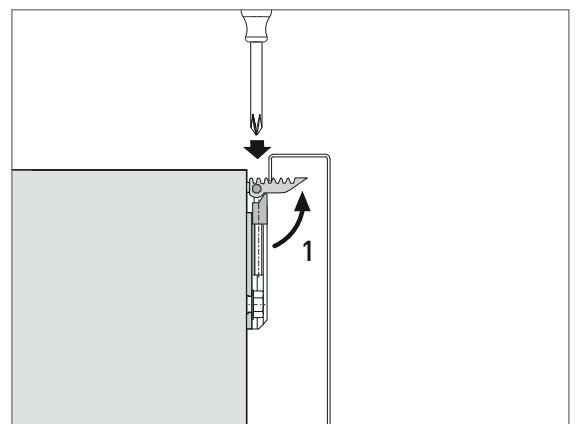
Installation at widened counter frame

- Screw the fold anchor to the wall.
- Open the fold anchors (1).
- Adjust the fold anchor.
- Position the counter frame on the corner frame and connect them.

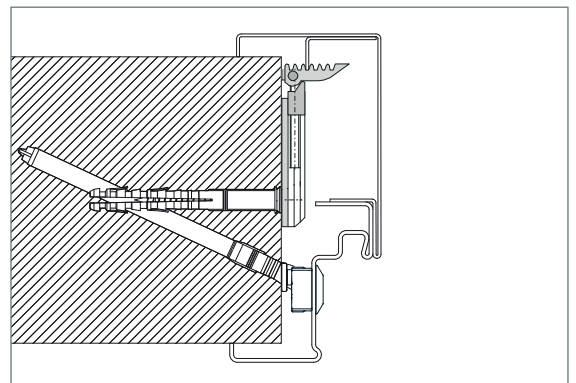
5.5.7.1 / 1



5.5.7.1 / 2



5.5.7.1 / 3



5. Installation Block frame

5.5.8 Block frame

Table 8: Minimum distances wall side

	Masonry/ Concrete	Autoclaved aerated concrete
T30	$Y \geq 50 \text{ mm}$	$Y \geq 75 \text{ mm}$
T90	$Y \geq 70 \text{ mm}$	$Y \geq 100 \text{ mm}$
T30/T60-1/2-62	$Y \geq 50 \text{ mm}$	$Y \geq 62,5 \text{ mm}$
T30-1/2-42	$Y \geq 50 \text{ mm}$	$Y \geq 75 \text{ mm}$

Attention!

To guarantee secure attachment, the gaps (X) should not be larger than 15 mm.

Use pressure resistant plates to compensate for any unevenness prior to schrewing parts together. All gaps (X) must be sealed.

$X < 6 \text{ mm}$

- Seal the gaps with B1 sealant.

$6 \text{ mm} < X < 15 \text{ mm}$

- Fill the gaps with Aq mineral wool or mortar.
- Seal the wall sealing joint with B1 sealant.

Note:

Observe the minimum distances (Y) on the wall side for T30 and T90 fire doors.

Reference:

Refer to Section 3.4 when selecting wall plugs.

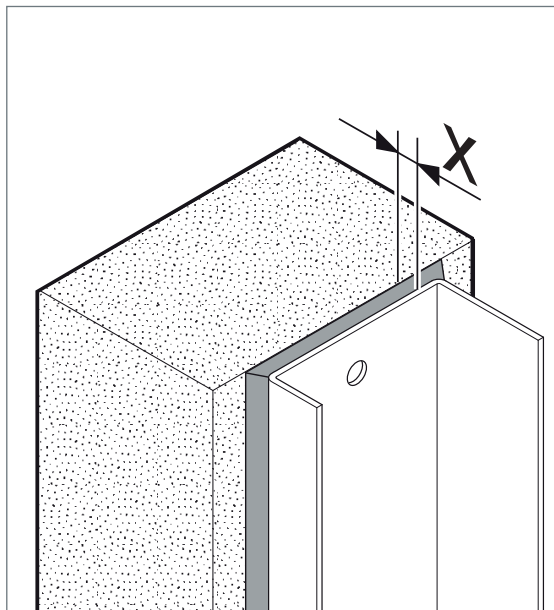
5.5.8.1 Preparatory measures with disassembled version

- Place the upper block frame basic profile in the wall opening.
- Align the upper block frame basic profile vertically and horizontally.
- Screw the upper block frame basic profile to the header.

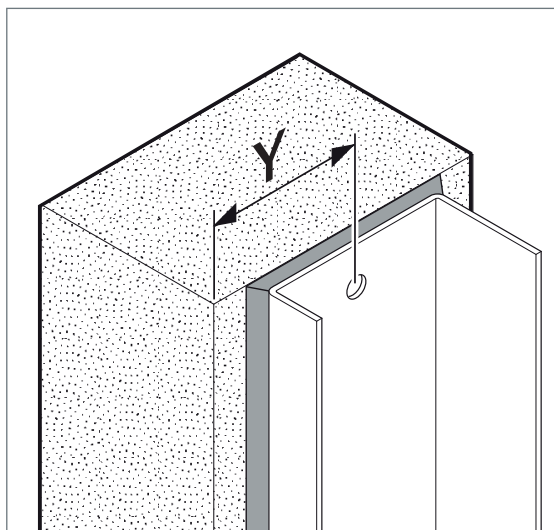
Note:

Always observe the factory set anchor positions.

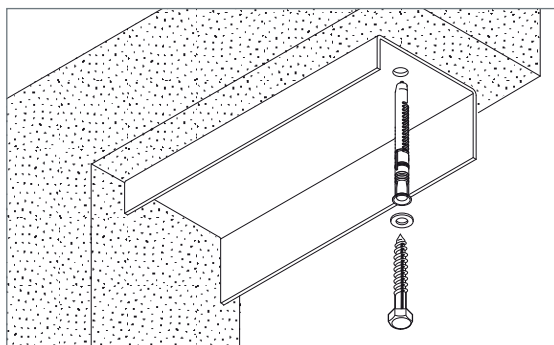
5.5.8.1 / 1



5.5.8.1 / 2



5.5.8.1 / 3



- Position the lateral block frame profile in the opening.
- Align the lateral block frame profile vertically and horizontally.
- Depending on the design, weld or screw the block frame profiles to the projections.
- Screw the lateral block frame profile to the wall.

Fastening material

Masonry / Concrete / Autoclaved aerated concrete:

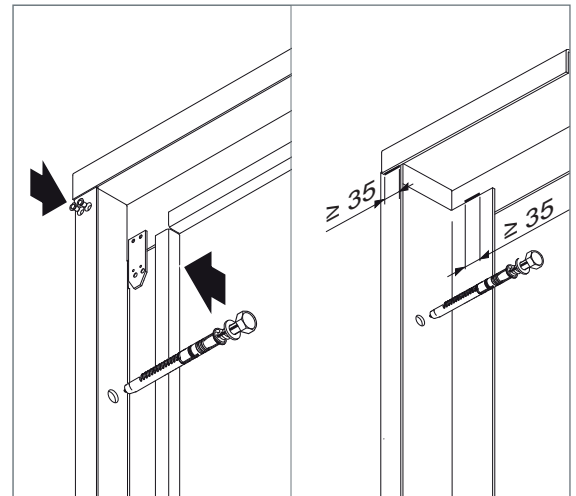
Minimum wall plug length: 100 mm

Bekleideter Stahlträger:

M6 screw and spacer sleeve

(the length depends on the cladding thickness of the support)

5.5.8.1 / 4



5.5.8.2 Block frame type 1.1

The bridges(E) must be installed next to all screw connections (D).

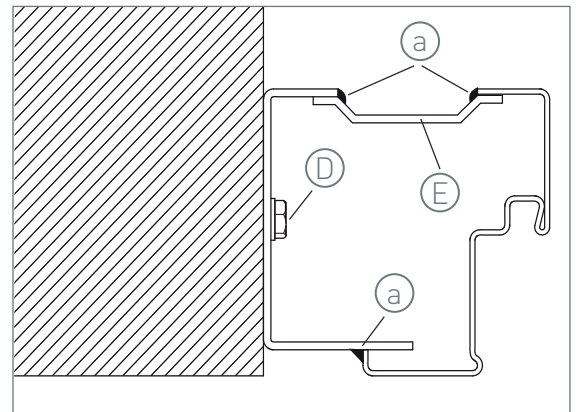
- Weld the frame to the bridge (E) on the block frame basic profile.
- Weld seam length (a) > 20 mm



Reference:

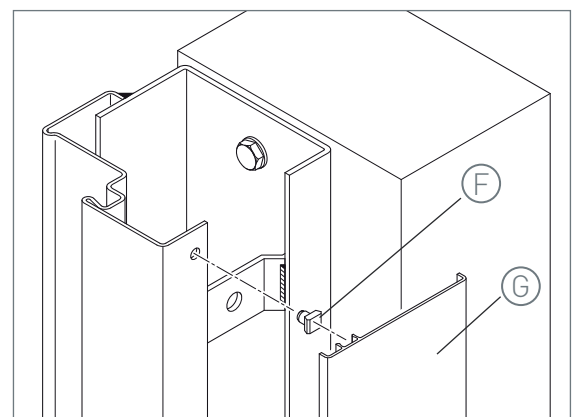
- The anchor positions are described in Table 2.
- The sequence is described in Section 5.5.

5.5.8.2 / 1



- Insert a clip (F) into all the holes in the corner frame.
- Plaster the frame with mortar.
- Press the aluminium cover (G) onto the frame.

5.5.8.2 / 2



Fastening material

Masonry / Concrete / Autoclaved aerated concrete:

Minimum wall plug length: 100 mm

Concealed steel girder:

M6 screw and spacer sleeve

(the length depends on the cladding thickness of the support)

Security doors

The aluminium cover (G) must be replaced with a steel cover for security doors.

The cover can be welded or riveted into position.

Rivet dia. 4 x 10 mm (every 300 mm)

Weld seam length (a) > 20 mm (every 500 mm)



5. Installation Block frame

5.5.8.3 Block frame type 1.2

**Note:**

When using mineral wool or gypsum board, it must be inserted prior to welding.

When using mortar, it is applied after welding.

- Weld the frame to the block frame basic profile every 500 mm.
- Weld seam length (a) > 20 mm

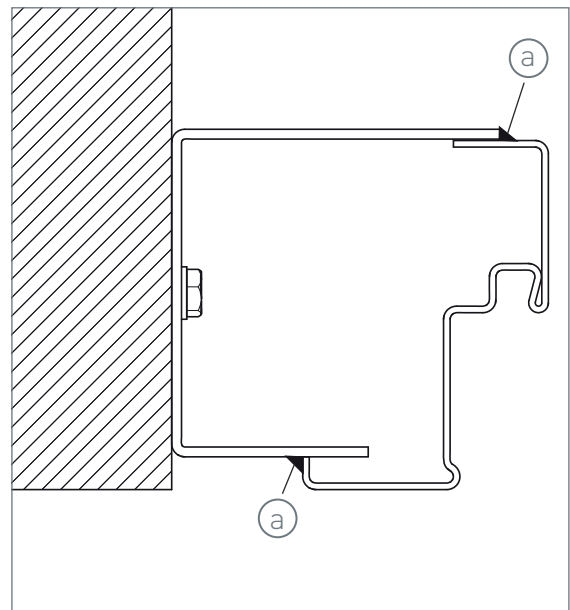
**Reference:**

- The anchor positions are described in Table 2.
- The sequence is described in Section 5.5.

Fastening material:

- **Masonry / Concrete / Autoclaved aerated concrete:**
Minimum wall plug length: 100 mm
- **Concealed steel girder:**
M6 screw and spacer sleeve (the length depends on the cladding thickness of the support)

5.5.8.3 / 1



5.5.8.4 Block frame type 2.1

**Reference:**

Refer to Section 3.6 when installing the frame at concealed steel girders.

**Note:**

When using mineral wool or gypsum board, it must be inserted prior to connection.

When using mortar, it is applied after screwing parts together.

5.5.8.4

The frame can be screwed or welded into position.

- Connect the frame to the profile.

Fastening material (J)

Masonry / Concrete / Autoclaved aerated concrete:

Minimum wall plug length: 100 mm

Concealed steel girder:

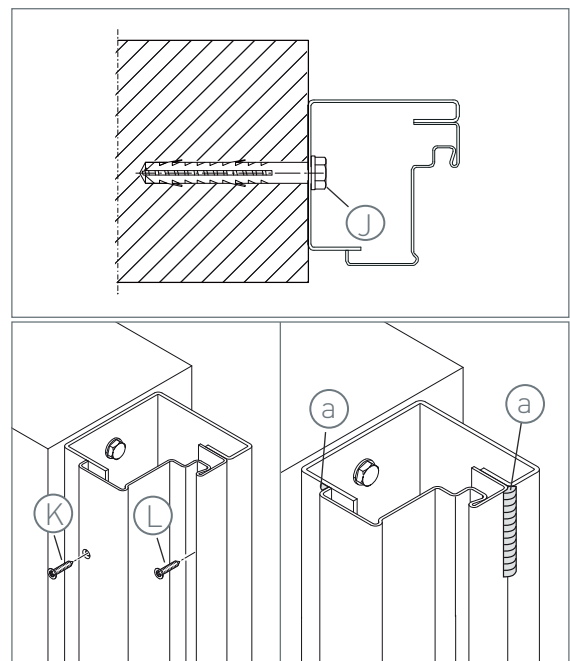
M6 screw and spacer sleeve (the length depends on the cladding thickness of the support)

Fastening material (K+ L)

Sheet metal screws 4.2x38 mm (L)

Frame piece screw connection: 4.2x22 mm (K)
(distance as specified by the manufacturer)

- Weld seam length (a) > 20 mm (every 500 mm)



5.5.8.5 Block frame type 2.2



Reference:

Refer to Section 3.6 when installing the frame at concealed steel girders.



Note:

When using material wool or gypsum board, it must be inserted prior to connection.
When using mortar, it is applied after screwing parts together.

The frame can be screwed or welded into position.

- Connect the frame to the profile.

Fastening material (J)

- **Masonry / Concrete / Autoclaved aerated concrete:**
Minimum wall plug length: 100 mm
- **Concealed steel girder:**
M6 screw and spacer sleeve (the length depends on the cladding thickness of th support)

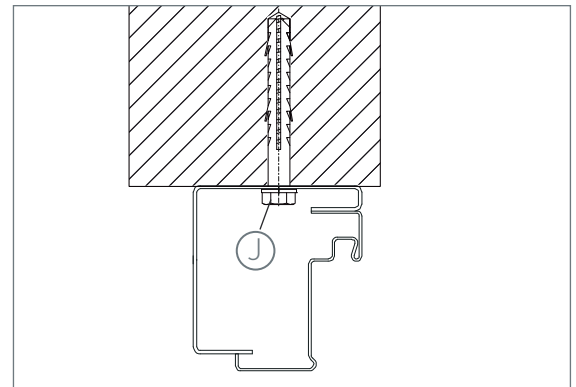
Fastenning material (K+ L)

4.2x38 mm sheet metal screws (L)

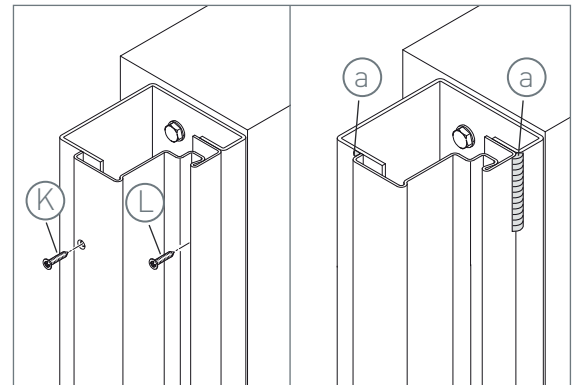
Frame piece screw connection: 4.2x22 mm (K)
(distance as specified by the manufacturer)

Weld seam length (a) > 20 mm (every 500 mm)

5.5.8.5 / 1



5.5.8.5 / 2



5.5.8.6 Block frame type 3

- Screw the frame to the wall in the specified sequence.



Note:

Always observe the factory set anchor positions.

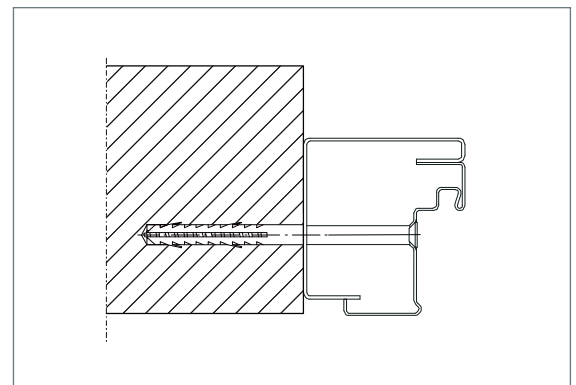
Fastening material

Masonry / Concrete / Autoclaved aerated concrete:
Minimum wall plug length: 160 mm

Concealed steel girder:

M6 screw and spacer sleeve (the length depends on the cladding thickness of the support)

5.5.8.6 / 1



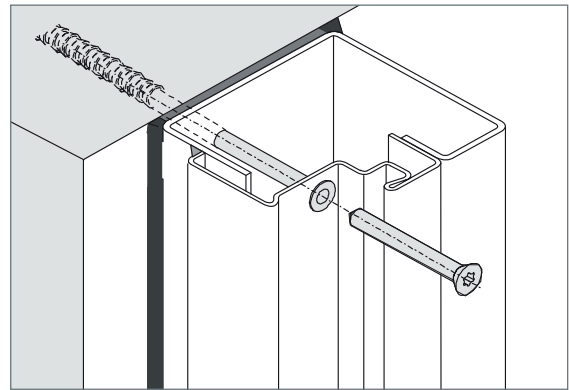
5. Installation Block frame



Reference:

- The anchor position are described in Table 2.
- The sequence is described in Section 5.5.
- The recommended wall plugs are described in Section 3.4.

5.5.8.6 / 2



5.5.8.7 Block frame type 4.1 und type 4.2



Reference:

Refer to Section 3.6 when installing the frame at concealed steel girders.



Note:

- When using mineral wool or gyosum board, it must be inserted prior to assembling the block frame.
- When using mortar, it is applied after screwing parts together.
- When using top door closers or handle sets, the frame must be flush with the wall.
- Always observe the factory set anchor positions.

- Screw the frame to the wall in the specified sequence.



Note:

Observe the minimum distances (Y) on the wall side for the T30 and T90 fire doors.

Minimum distances wall side see Table 8

Fastening material

Masonry / Concrete / Autoclaved aerated concrete:

Minimum wall plug length: 160 mm

Concealed steel girder:

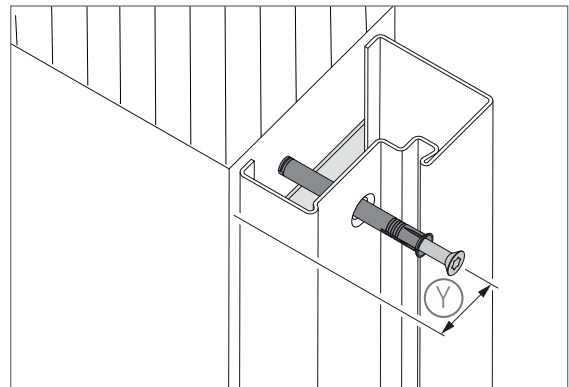
M6 screw and spacer sleeve (the length depends on the cladding thickness of the support)



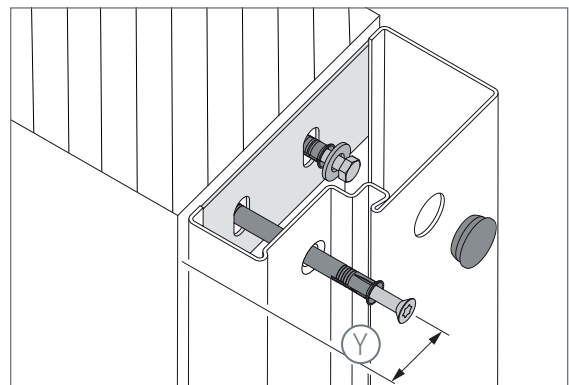
Reference:

- The anchor positions are described in Table 2.
- The sequence is described in Section 5.5.
- The recommended wall plugs are described in Section 3.4.

5.5.8.7 / 1



5.5.8.7 / 2



5.5.8.8 Block frames type 5.1, 5.2, 5.3, 5.3L

**Note:**

Always observe the factory set anchor positions.

**Reference:**

- The anchor positions are described in Table 2.
- The sequence is described in Section 5.5.
- The recommended wall plugs are described in Section 3.4.

There are 3 ways to screw the block frame type 5 to the wall.

Type 5.1

- Screw the frame to the wall in the specified sequence.

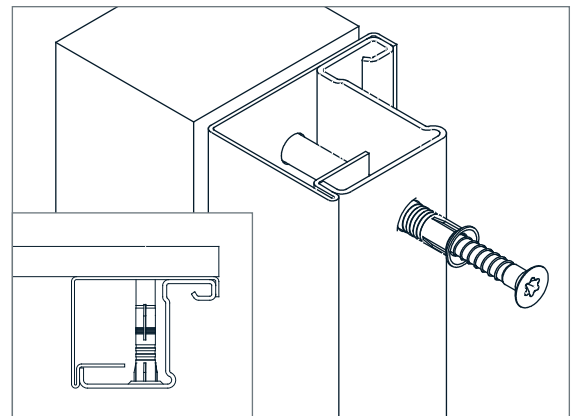
Fastening material

Masonry / Concrete / Autoclaved aerated concrete:

Minimum wall plug length: 160 mm

Steel girder:

M6 screw

5.5.8.8 / 1**Type 5.2**

- Screw the frame to the wall in the specified sequence.
- Attach the caps.

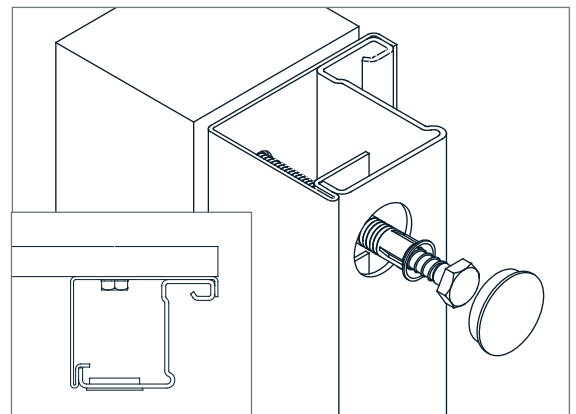
Fastening material

Masonry / Concrete / Autoclaved aerated concrete:

Minimum wall plug length: 100 mm

Steel girder:

M6 screw

5.5.8.8 / 2**Type 5.3 / 5.3L**

- Screw the frame to the wall in the specified sequence.

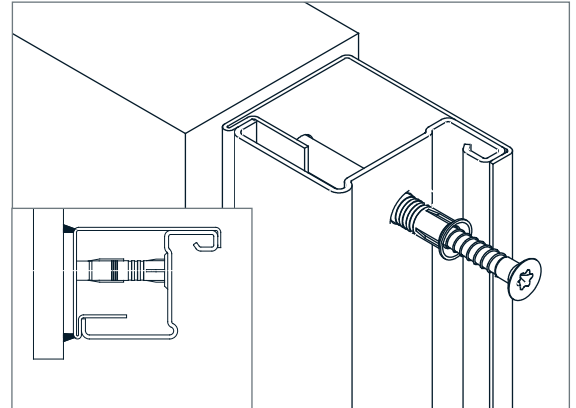
Fastening material

Masonry / Concrete / Autoclaved aerated concrete:

Minimum wall plug length: 160 mm

Steel girder:

M6 screw

5.5.8.8 / 3

5. Installation TSM- frame in masonry and concrete

5.5.9 Corner frame TSM

**Note:**

Always observe the factory set anchor positions.

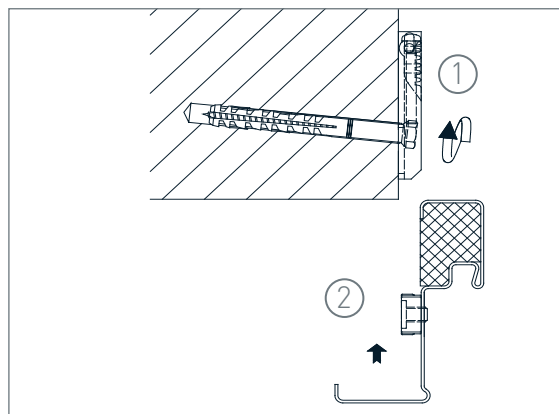
**Reference:**

- The anchor positions are described in Table 2.
- The sequence is described in Section 5.5.
- The recommended wall plugs are described in Section 3.4.

The corner frame TSM can be mounted in a few steps as a mortar-free frame attachment.

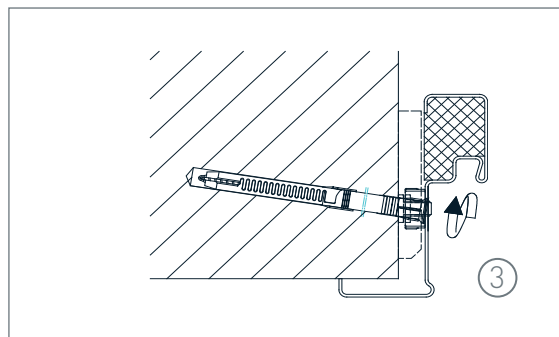
- Dowelling the special frame anchor (1).
- Slide the frame (2) into the wall opening.

5.5.9 / 1



- Fix the frame by means of adjusting screws and bolt it to the factory-prepared anchor positions (3).

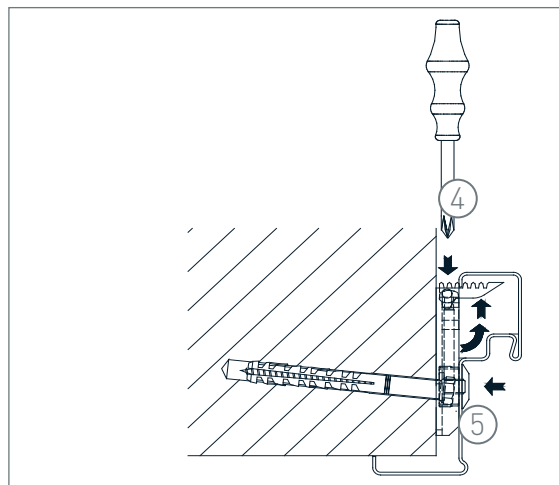
5.5.9 / 2

**Reference:**

- fixed by means of screws see also Figure 5.5.1.1/1

- Align the hinged anchor on (4) so that they snap into the frame.
- Adjust the hinged anchors.
- Place the cover (5) over the frame holes.

5.5.9 / 3



5.6 Backfilling the frame

General information on frame backfilling

- The specified materials for complete filling the frame have to be replaced according to the specified numerical sequence (Table 13) in ascending order, i.e. a higher order category can be alternatively used (e.g. specification 30 (gypsum board) should only be replaced with 40 (mortar), but not with 20 (mineral wool)). Restriction: Mortar should not be used with installation walls.
- Prior to backfilling the frames with mortar, spread them sufficiently to ensure stability.
- After curing, complete backfilling cannot be tested simply by tapping the frame and listening, since there is not necessarily shear resistance between the frame profile and the filling mortar!
- Backfillings with gypsum boards can display at the joints of the strips small gaps, since they are compensated by the fire protection effect of the gypsum board material.
- Frame backfilling with mortar must be carried out as described in the illustrations (i.e. plastering in the soffit is not required).
- Dowel brackets can be visible after installation and do not have to be plastered over.



Attention! The door should not be opened until the mortar has cured.

Table 12: Filling

		Masonry / Concrete / Autoclaved aerated concrete				concealed steel / wood girder				Installation walls		
		Corner frame Closed frame	Counter frame	Block frame	TSM frame	Corner frame Closed frame	Counter frame	Block frame	TSM frame	Counter frame	Closed frame	Block frame (Type 4.1)
Fire doors	T30	Mor	Min	Min *1)	Min	Min		Min *1)	Min	Min *2)	Min *2)	Min
	T60/T90		Mor	Gip *1)		Gip						
Smoke protection doors			Min	Min								
Burglar-resistant doors		Mor *3)	PUR	Mor *3)		Mor *3)	PUR	Mor *3)	PUR	Mor *3)	PUR	Mor *3)
Sound insulated doors		PUR *4)										
Multi-purpose doors		PUR										

*1) Block frame width BZB > 100mm: Mortar (BZB see Figure 3.4 / 3)

*2) Promat wall 450.81 and 450.90: Gypsum board

*3) Replacement pressure-resistant backfilling

*4) Mortar at T90-1 OS-72; dw67-1/2 S/HS

sealing on both sides is required

Table 13: Category

Category	Abbr.	Explanation
10	PUR	Installation foam
20	Min	Mineral wool DIN 4102-A1
30	Gip	Gypsum board DIN 18180
40	Mör	Mortar at least mortar group II acc. to DIN 1053

5. Installation - Additional work for protection classes



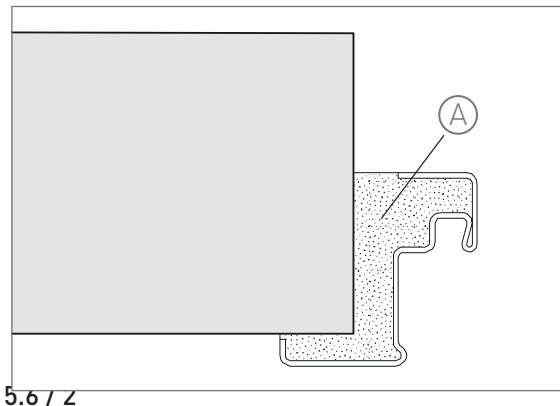
Attention!

Prior to backfilling the frame, carefully check correct functioning of the door.
Spread the frame slightly to prevent it being bent and twisted.



Smoke protection doors

Full-volume frames (A) with mortar do not have to be permanently elastic sealed.

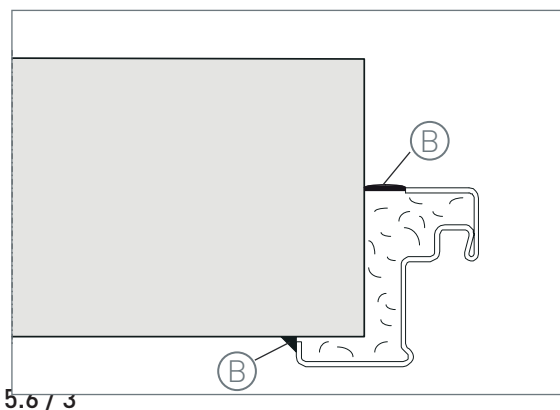


5.6 / 2

When filling with mineral wool or gypsum board, the wall connection joints must be sealed on both sides with permanently elastic material (B).

Sound insulated doors

Sound insulated doors should always be backfilled.
Use a sealant or plaster to seal the connection between the wall and the frame.



5.6 / 3



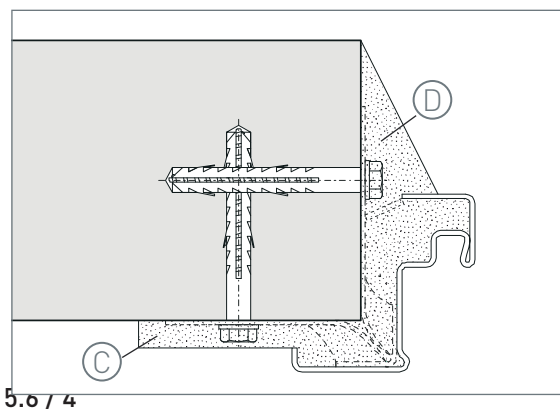
Security doors

Security door frames must be backfilled in a pressure-resistant manner.

The screws must be plastered on the danger side (C or D),

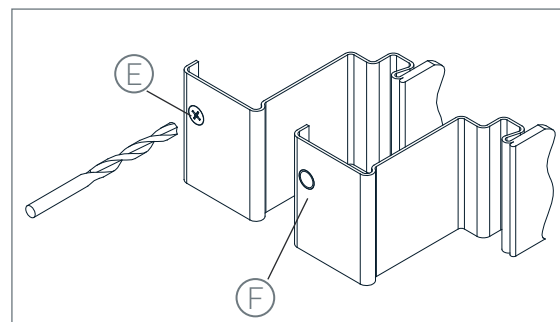
C Danger side - hinge side

D Danger side - opposite hinge side



5.6 / 4

When mounting onto lightweight wall, prevent the fixing screws from being loosened. To do this, destroy the bit insert (E) mechanically (eg by means of a drill) (F).



5.6 / 1

5.7 Inserting seals



Attention!

To ensure correct functioning of the seals, do not paint over them.

Remove seals prior to painting and only reinsert them once the paint is fully dry.

Only use original seals.

5.7.1 Frame seal



Smoke protection

The seals must be mitred and pushed close together.

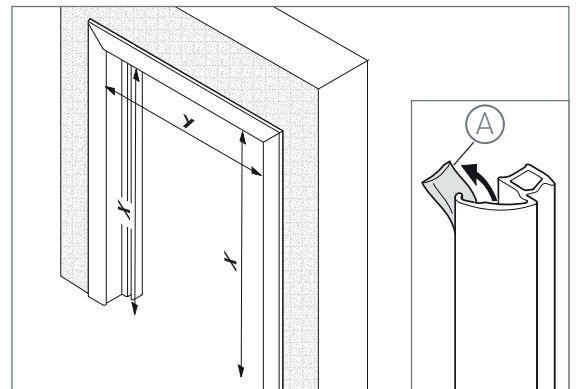


Sound insulation

The seals must be mitred and glued together using an instant adhesive.

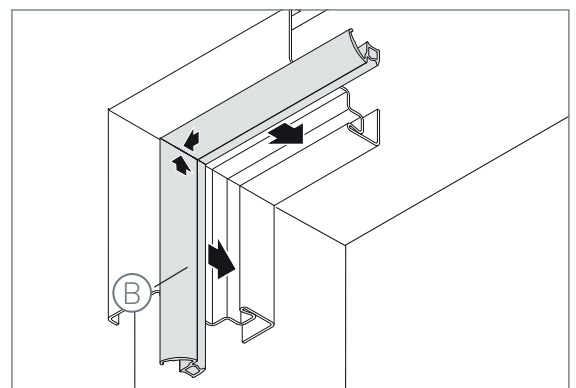
- Remove the strip (A).
- Cut the seals to the correct length.

5.7.1 / 1



- Press the seals (B) into the grooves.

5.7.1 / 2



5. Installation - Seal and floor connection

5.7.2 Rebate seal

- Cut the seal to the connect length.
- Rebate seal - version see Figure 5.7.2 / 1
- Press the seal into the grooves.

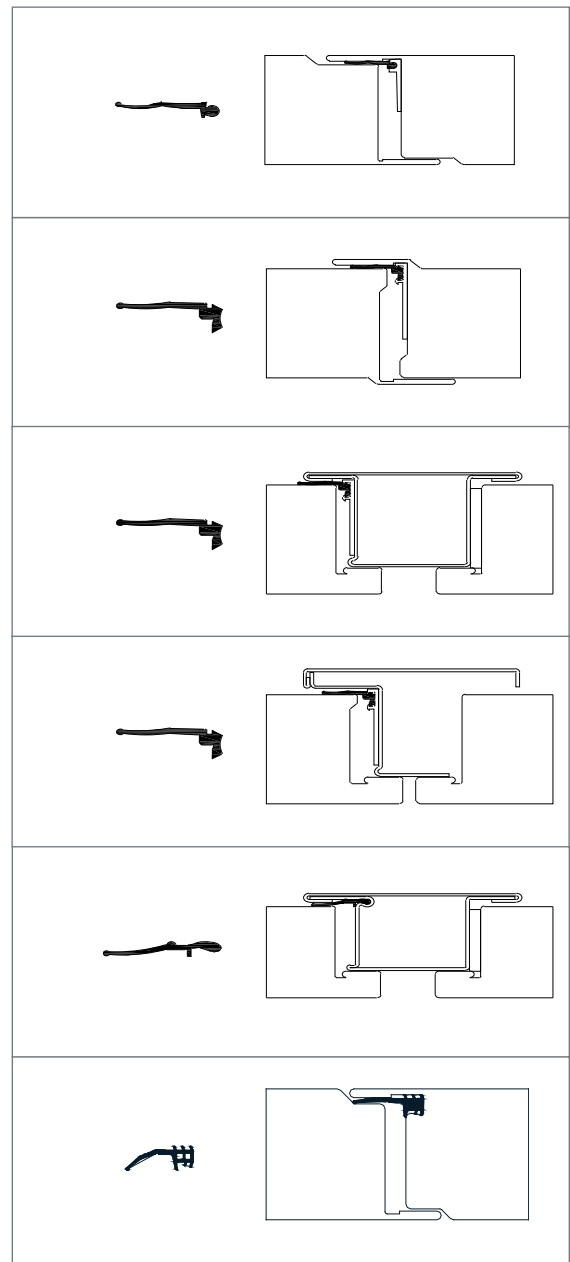


Note:

The rebate seal must

- cover the frame seal at the top and
- rest on the floor at the bottom.

5.7.2 / 1



5.8 Installing and adjusting the floor connection / bottom seal



Attention!

To ensure correct functioning of the seals, do not paint over them.

5.8.1 Retractable bottom seal



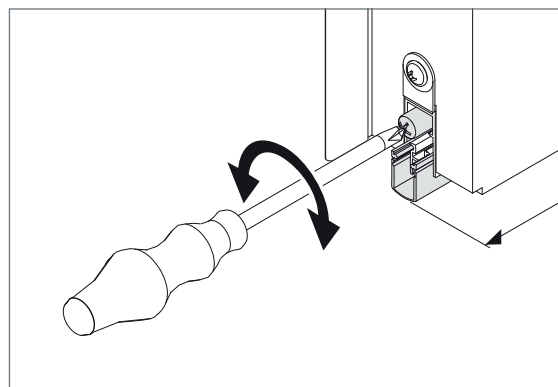
Note:

In order to ensure correct functioning of the bottom seal, the floor has to be straight, even, smooth and firm. If the substructure does not meet the requirements, a threshold must be used.

The setting of the bottom seal travel must ensure that the seal fulfils the following requirements when the door is closed:

- The seal has contact with the floor across the entire width of the door.
- Use the adjusting screw to set the travel.
- The bottom seal must be guided to the frame rebate or inactive door leaf.

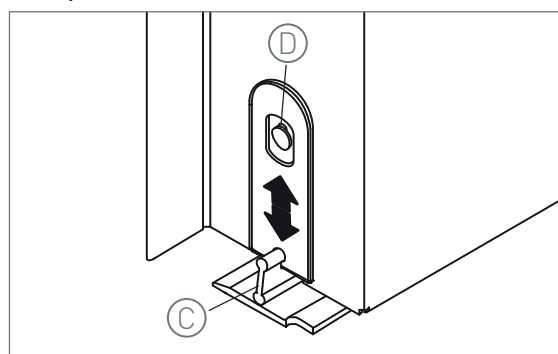
5.8.1 / 1



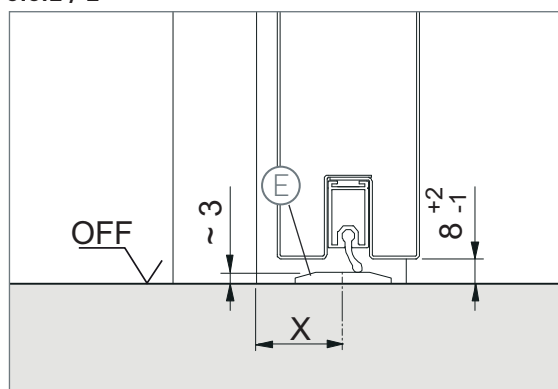
5.8.2 Sliding threshold seal

- Use the screw [D] to set the height of the sliding threshold seal [C].
- The sliding threshold seal must be guided to the frame rebate or inactive door leaf.

5.8.2 / 1



5.8.2 / 2



Door type	Seal holder		Dimension X	
	1 leaf	2 leaf	1 leaf	2 leaf
52 thin rebate	middle	middle	25	25
52 thick rebate	middle	middle	25	25
62 thin rebate	offset	middle	20	30
62/64 thick rebate	middle	middle	35	35
42 thin rebate	middle	middle	25	25

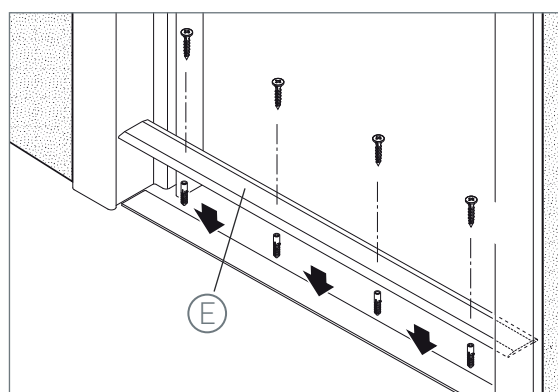
Version with floor recess

The contact threshold has been pre-assembled on the floor bracket.

Version without floor recess

- Insert the contact threshold [E].
- Use a permanently elastic sealing compound to seal the gap between the floor and the contact threshold [E].
- The mounting holes are prepared in the factory.

5.8.2 / 3

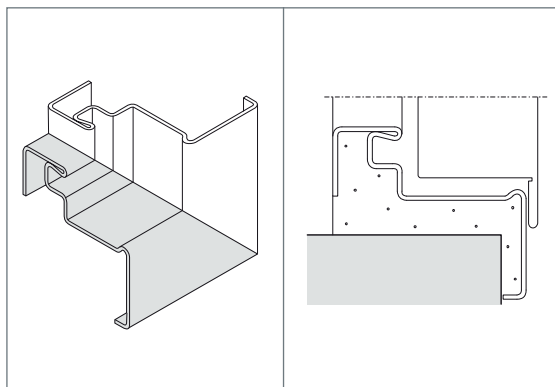


5. Installation - Floor connection

5.8.3 Floor connection with 4-sided frame and 4-sided rebate for hatches and doors

Installation according to 3-sided frame

5.8.3 / 1



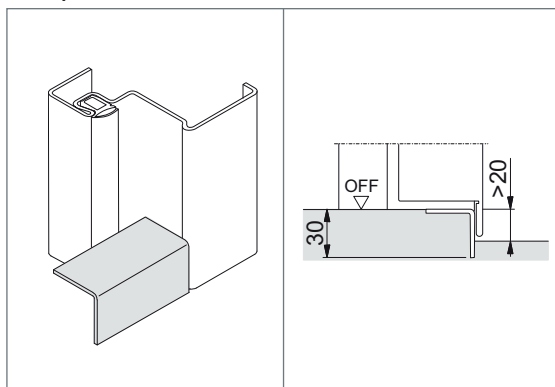
5.8.3 Floor connection with floor bracket and 4-sided rebate for hatches and doors



Note:

The door must be installed together with the floor bracket.

5.8.4 / 1

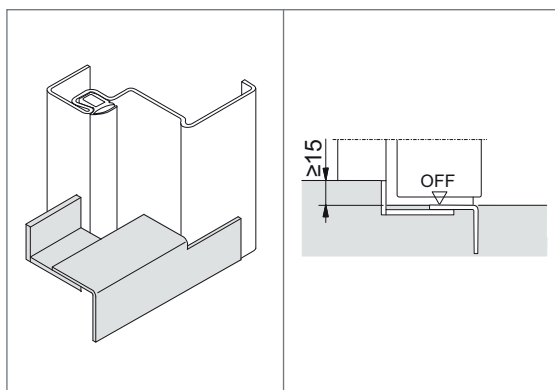


5.8.5 Floor connection with buffer

- Set the bracket in the floor.

The difference between the floor height inside and outside is approx. 15 mm.

5.8.5 / 1

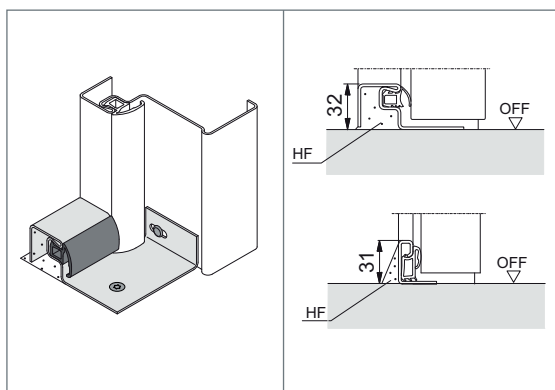


5.8.6 Floor connection with bottom buffer seal

- Place the door element in the opening.
- Align the door element.
- Ensure the buffer is also embedded when plastering the frame with mortar.
- Use wall plugs (dia. 6) to fix the bottom buffer strip into position.

HF Backfilling

5.8.6 / 1



5.9 Installing hardware



Reference:

The conditions described in Section 3 must be considered when using the various handle sets. The installation instructions of the respective fitting manufacturer must be observed.



Sound insulation

Sound insulated doors must be equipped with profile cylinders.



Smoke protection

Smoke protection doors must be equipped with profile cylinders.



Security doors

Security doors must be equipped with special security fittings.



Reference:

Notice Table 6. Security doors

5.9.1 Security hardware

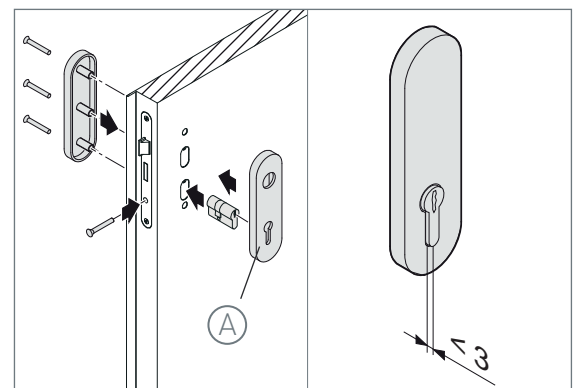


Security doors

The following conditions must be fulfilled in order to achieve the desired protection class:

- The plate with anti drilling protection (A) must be attached on the danger side.
 - Security hardware and profile cylinders must comply to the requirements in Table 6.
 - The profile cylinder should not protrude more than 3 mm from the outer plate.
- Install the security hardware.

5.9.1 / 1



5.9.2 Height adjustment of the door

With some doors, the door height can be adjusted using spacer rings.



Note:

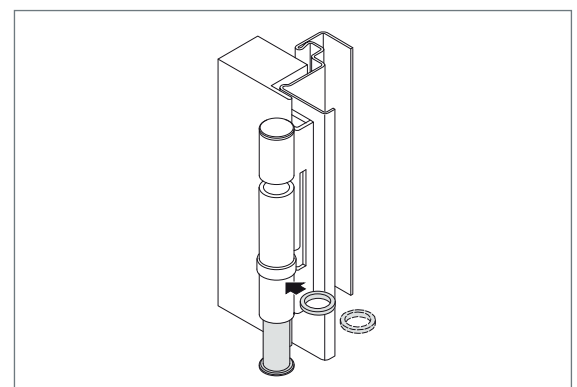
- A maximum of 2 spacer rings (each 2 mm thick) should be used.
- The permissible clearances must be observed.



Reference:

The required clearances are described in Section 3.4.

5.9.2 / 1



5. Installation - Equipment and settings

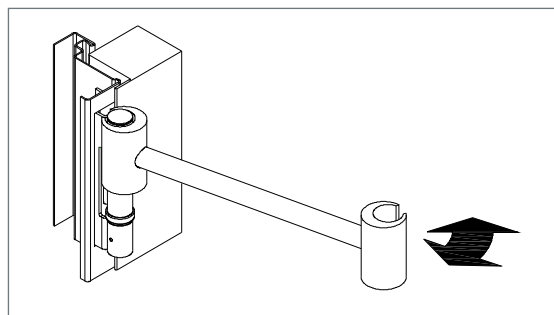
5.9.3 Aligning the door leaves

- The horizontal position of the door leaves (fine adjustment of the gap between the door leaf and the frame) can be done by means of hinge bar available as an assembly tool.

**Reference:**

Notice Table 3 gaps.

5.9.3 / 1



5.9.4 Adjust the 3-dimensional hinges

**Note:**

The hinges have a three-dimensional, continuous adjustment (page +/- 3.0 mm; height +/- 3 mm; depth +/- 2 mm), the gap dimensions must be observed.

Adjustments:

- Open the door.
- Secure the door with wedges.
- Bring door in the correct position. Remove the wedges.

Note:

Adjust both screws evenly, to avoid tension on the hinge axis.

Lateral adjustment:

- Turn the spindle screws (B) in the corresponding direction.

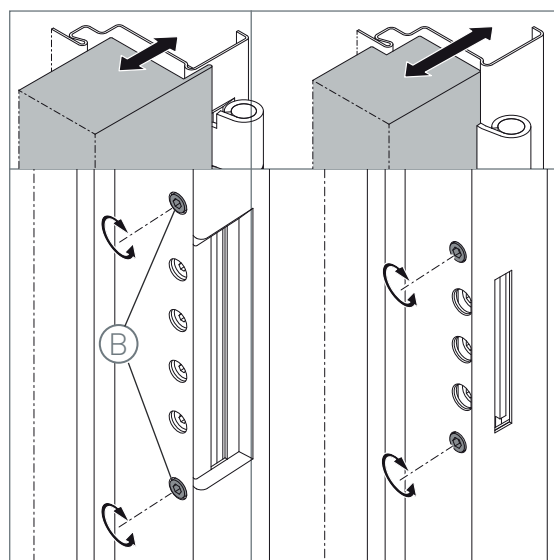
Note:

Adjust both screws evenly, to avoid tension on the hinge axis.

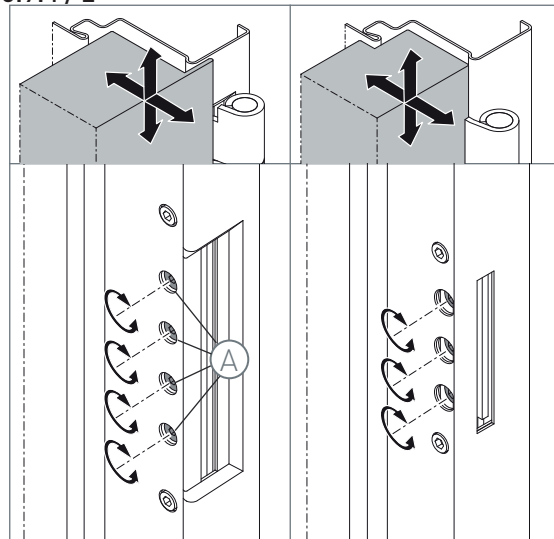
Pressing / height adjustment:

- Slightly loosen the clamping screws (A) per mounting element.
- Bring door in the correct position.
- Tighten clamping screws (A).

5.9.4 / 1



5.9.4 / 2



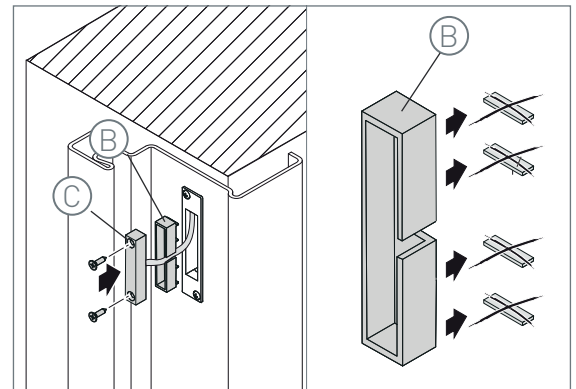
5.9.5 Electrical components and attachments

Reed contact

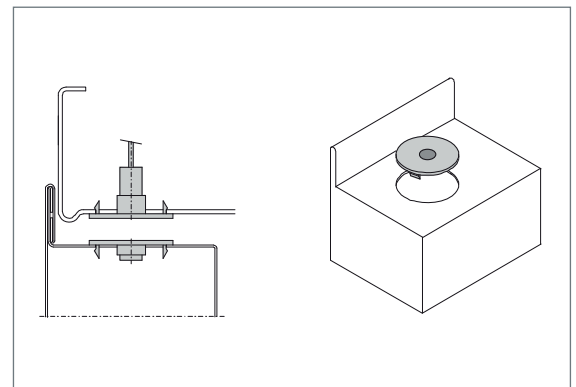
The plastic receiver (B) is only required for smaller sizes, Depending on the height of the contacts, the spacer feet at the plastic receiver (B) must be removed.

- Check whether the reed contact (C) has been pre-assembled.
- If the reed contact (C) has not been pre-assembled, insert the reed contact.

5.9.5 / 1



5.9.5 / 2



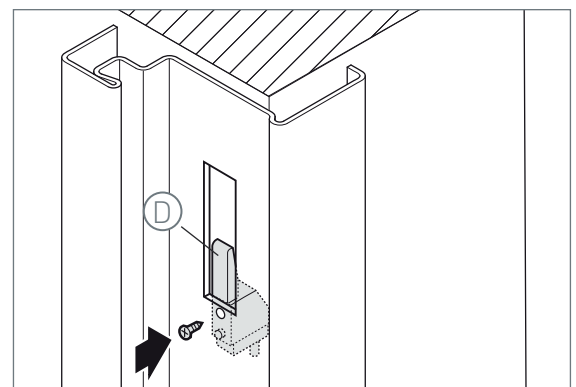
Alternatively, use the round type.

Bolt contact

Main lock

- Push the cable through the empty cable duct.
- Screw the bolt contact (D) to the frame, the inactive door leaf or the lock plate.

5.9.5 / 3



Note:

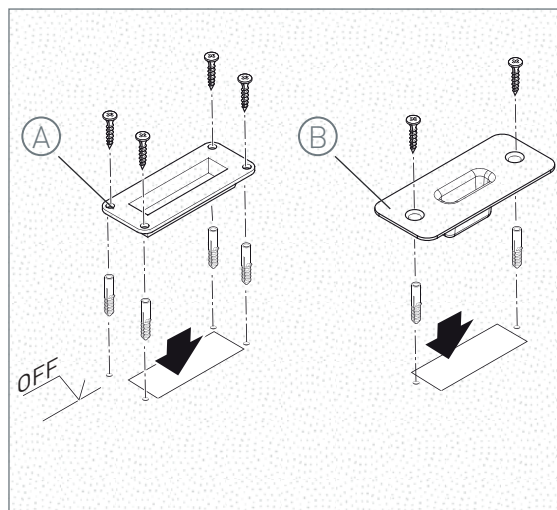
The function of the electrical attachments and installation parts must be checked before completion of the installation.

5. Installation - Equipment and settings

5.9.6 Floor recess with finished floor

- Depending on the version supplied, anchor the floor recess (A / B) to the floor without auxiliary construction. Floor recess (A) for bars with round locking rod end, base recess (B) for flattened locking rod ends with lowerable floor seal. (also available for doors according to EN 179 and EN 1125).

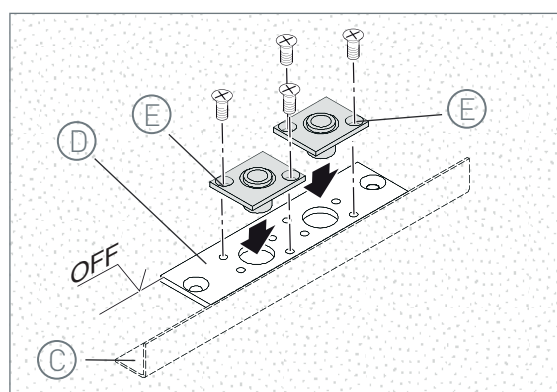
5.9.6 / 1



5.9.7 Floor sleeve with floor bracket

- Weld the holding plate (D) to the floor bracket (C).
- Screw the floor sleeves (E) to the holding plate (D).

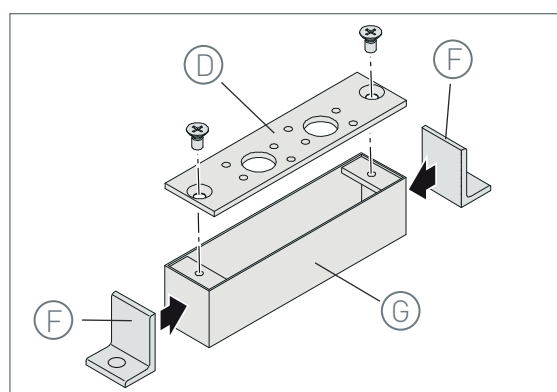
5.9.7 / 1



5.9.8 Floor sleeve without floor bracket

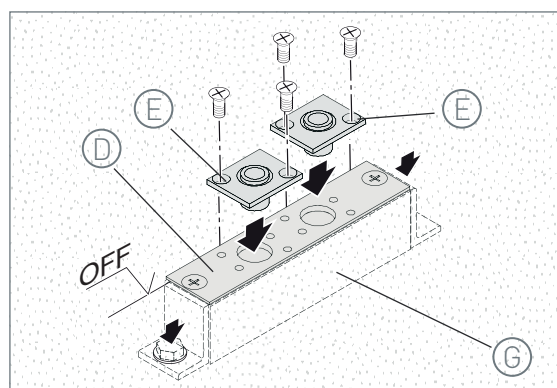
- Weld the brackets (F) to the mortar box (G).
- Screw the holding plate (D) onto the mortar box (G).

5.9.8 / 1



The upper edge of the holding plate D) must be flush with the upper edge of the finished floor.

5.9.8 / 2



- Screw the mortar box (G) to the floor.
- Screw the floor sleeves (E) to the holding plate (D).
- When setting the closing function, please ensure that the bars easily enter the floor sleeves.



Security doors

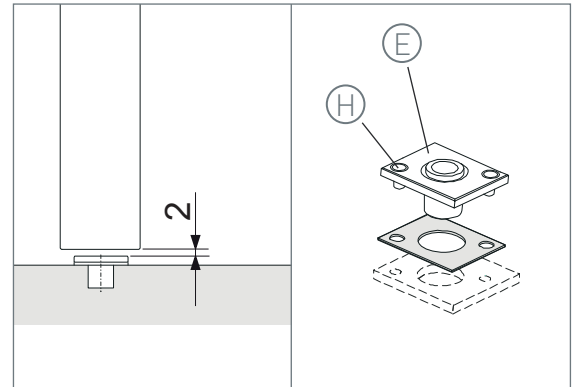
The maximum clearance between the door leaf and the upper edge of the floor sleeve (E) is 2 mm.

Use the supplied spacer plates (H) to adjust the height of the floor sleeves.

Setting the floor sleeve

- Slightly loosen the countersunk screws.
- Close the door.
- Extract the locking bar.
The sleeve is subsequently centred on the bar.
- Carefully open the door.
- Tighten the countersunk screws.
- Check whether the door closes properly.
The bars should enter the sleeves easily.

5.9.8 / 3



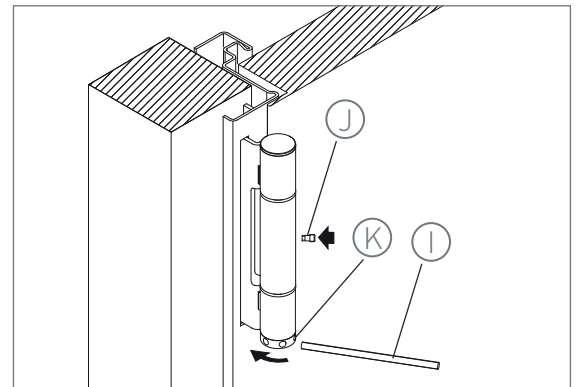
5.9.9 Setting the spring hinge

The door must be tensioned to ensure that it closes automatically from an opening angle of $> 30^\circ$.

The tensioning tool (I) and the lock pin (J) are supplied with the handle set.

- Tension the spring by turning (approx. 270°) the tensioning wheel (K) in the opening direction.
- Insert the lock pin (J).

5.9.9 / 1



5. Installation - Equipment and settings

5.9.10 Door closer hinge side

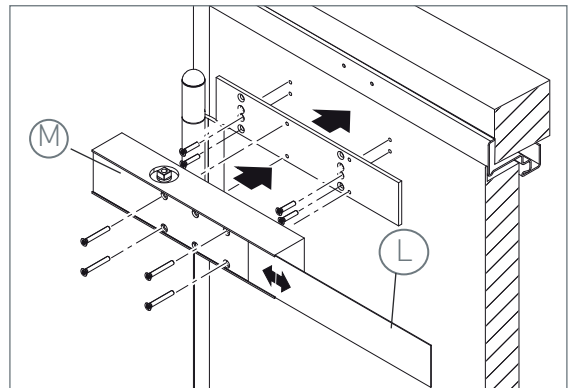


Reference:

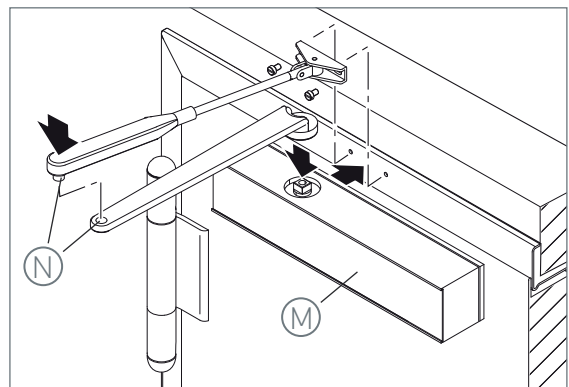
Please observe the respective instructions during installation and setup.

- Screw the installation plate (L) to the door leaf.
- Screw the door closer (M) to the installation plate (L).
- Screw the lever arm (N) to the door closer (M) and the frame.

5.9.10 / 1



5.9.10 / 2



5.9.11 Door selector

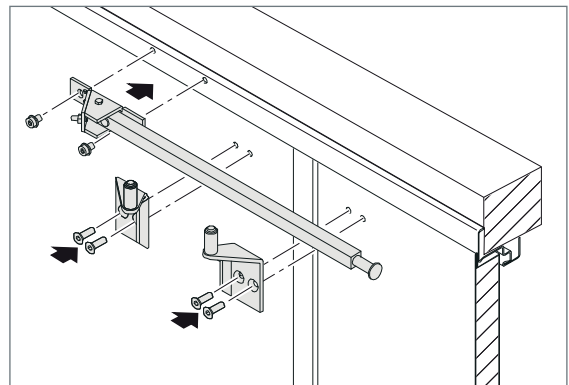


Reference:

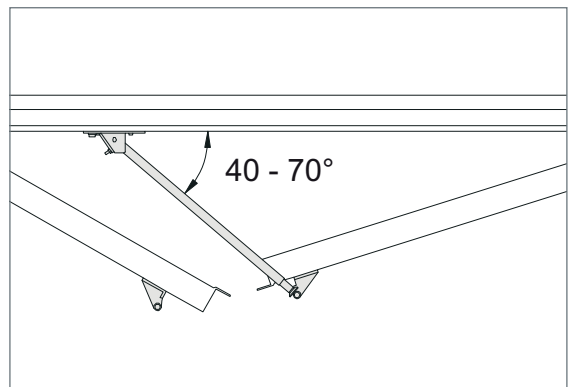
Please observe the respective instructions during installation and setup.

- Screw the door selector to the door leaf.
- Set the door selector.

5.9.11 / 1



5.9.11 / 2



5.9.12 Driver flap



Panic doors

Double-leaf door systems with panic lock must be equipped with a driver flap.



Reference:

Please observe the respective instructions during installation and setup.

- Screw the driver flap to the door leaf.

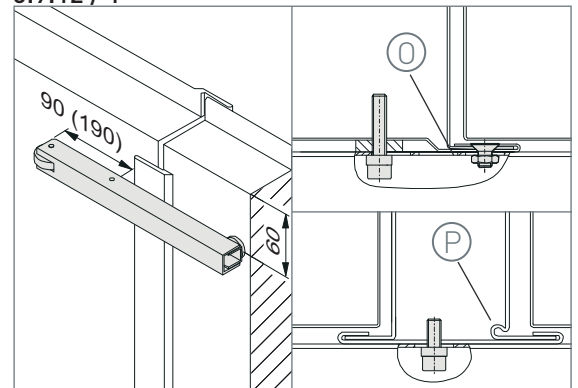
Doors with rebate buffer (O)

- M6x35 cheese head screws
- M6x10 countersunk screws

Doors with central rebate profile (P)

- M6x16 cheese head screws

5.9.12 / 1



5.9.13 Magnetic clamp

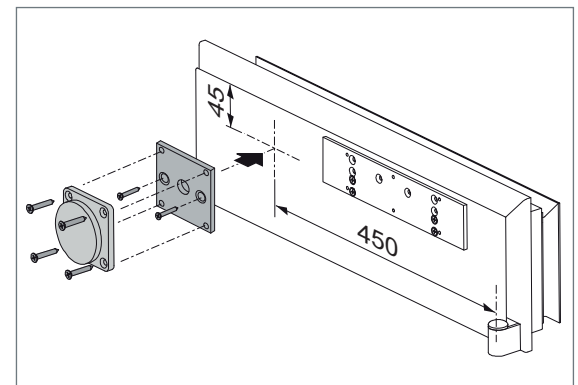


Reference:

Please observe the respective instructions during installation and setup.

- Screw the anchor plate including adaptor plate to the door.
- Attach the magnetic clamp console including the magnetic clamp to the wall.

5.9.13 / 1



5. Installation - Equipment and settings

5.9.14 Upper casing / Top light



Attention!

The specified clearance between the door leaf and the upper part must be observed.



Note:

If the door and the upper part are delivered separately, the upper part must be screwed to the frame at the side and the top.



Fire and smoke protection doors

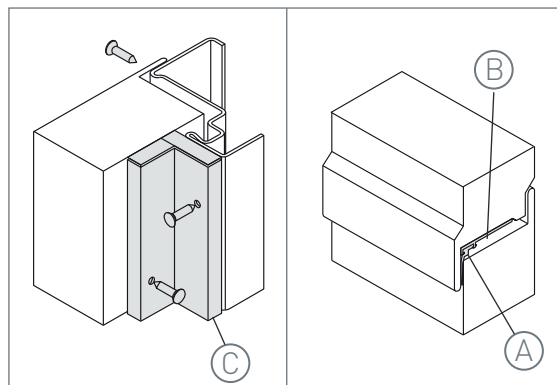
Thin rebate doors

- Insert the seal (A) into the seal receiver at the upper part (B).
- Screw on the upper casing / top light
 - from the front through the rebate,
 - from the rear with the cover strips (C).

Fastening material

Screws St 4.2 / e = 250

5.9.14 / 1



Thick rebate doors

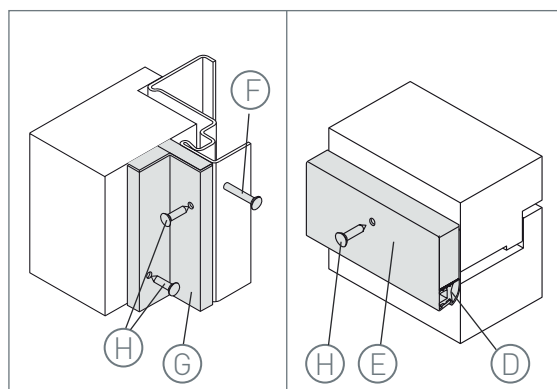
- Insert the seal (D) into the seal receiver at the upper part (E).
- Screw on the upper casing / top light
 - from the rear frame piece with screws (F)
 - from the rear with the cover strips (G) and screws (H.)
- Fix the rear buffer (E) using the screws (F).

Fastening material

M5 screws (F) / e = 250

Screws St 4.2 (H) / e = 250

5.9.14 / 2



Multi-purpose doors

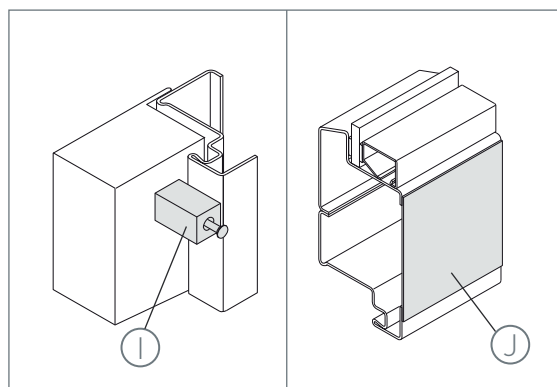
Doors with installed upper part

- Fix the upper part to the rectangular profiles using M8 screws (I).

Doors with mounted frame profile

- Place the upper part onto the frame and weld it on (l = 20, e = 300).
- Place the cover plate (J) over the frame profile.

5.9.14 / 3



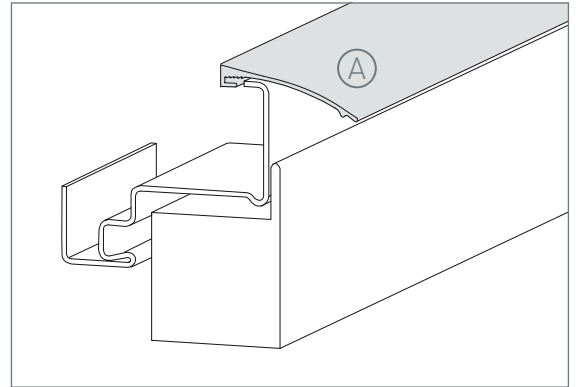
5.9.15 Rain guard

Exteranl doors must be equipped with a rain guard.

doors without top door closer

- Clamp the aluminium rain guard (A) onto the upper frame part prior to installing the door.

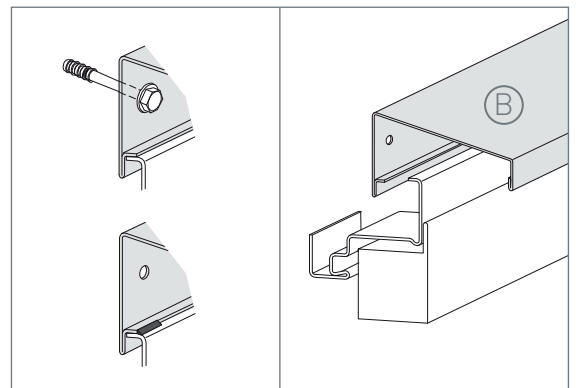
5.9.15 / 1



Doors with top door closer

- Attach the sheet steel rain guard (B) to the header (screw assembly) or to the upper frame part (welding).

5.9.15 / 2



Fastening material

S6 wall plugs with corresponding screws

alternatively

$l > 20$, $e > 750$

5.10 Final work



Reference:

The specifications for surface treatment in Section 3 must be observed.



Function check:

- Check correct door functioning.
- Check whether all the installed components function correctly.
- Check whether all requirements of the desired protection class have been observed.

6. Maintenance Instructions

6.1 General

- Maintenance is in accordance with §3 of the Building Laws and Regulations of the German State of North Rhine-Westphalia (BauO NW) and is the responsibility of the property owner. The property owner can carry out the required maintenance tasks or employ a specialist company to do it.
- To ensure correct functioning of the fire, smoke protection, security, sound insulated and multi-purpose doors, professional maintenance should be carried out every 12 months (more often for frequently used doors).

6.2 Maintenance tasks



Attention!

Detected faults must be eliminated immediately to guarantee safe operation.

Only suitable cleaning agents should be used for cleaning. Not suitable are:

- Cleaning agents with corrosion promoting or harmful contents.
- Scouring agents, abrasive cleaning agents, wire wool or similar products.
- Petrol, benzene, turpentine or similar products.

Use acid-free graphite, grease or resin-free oil for lubrication purposes.

- Clean seal profiles with a clean cloth, warm water and a ringsing agent.

Door components	Required maintenance tasks					
	Function check	Clean	Lubricate / Oil	Tighten fastening screw	Rectify	Comment
Door design						
Frame		x		x	x	Repair surface defects (cracks)
Wall connection				x	x	Repair defects (loose masonry, cracks)
Door leaf	x				x	Repair surface defects (cracks)
Infill (glass, ventilation)	x			x	x	Repair sealing defects (silicone), clean ventilation slots
Upper part (fixed)		x		x	x	Repair surface defects (cracks) Check and lubricate locking system (e.g. catches and hinges)
Upper part (fixed glazing)		x		x	x	
Upper part (opening glazing)	x	x	x	x	x	
Bottom threshold	x	x		x	x	Repair surface defects (cracks) (to ensure correct sealing)
Hardware						
Seals	x		x		x	Replace brittle or damaged seals
Hinges	x	x	x	x	x	Replace defective parts
Handle, knob		x		x		
Mortice lock (latch, bolt)	x	x	x	x	x	Check the double-rotating connection of the bolt, replace defective locks, if necessary
Lock plate	x	x	x	x		Check the adjustable latch parts, if available, re-adjust, if necessary
Additional locking without profile cylinder	x	x	x	x		
Additional locking with profile cylinder	x	x	x	x		
Top door closer (OTS)	x	x	x	x	x	Check the closing speed (approx. 6 sec from 90°) and the limit stop
Retractable bottom seal	x	x		x	x	Ensure sealing along the entire width (regulate via wedges), replace brittle or damaged seals
Spyhole		x				

Declaration of performance (for doors in exterior applications)
(in compliance with the Construction Products regulation 305/2011)

Manufacturer:

Teckentrup GmbH & Co. KG Industriestrasse 50 . D- 33415 Verl-Sürenheide

When intended for use as external doors, the steel multi-purpose doors have been developed, designed and manufactured in accordance with the EC Construction Products Regulation no 305/2011 of the European Parliament and Council of 9 March 2011.

Applied standards:

EN 14351-1:2006 + A1:2010 Windows and doors – Product standard, performance characteristics – Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics.

The door should not be used until it has been asserted that the door has been installed according to our specifications and its operability has been checked. If the product is modified without our approval, this declaration is no longer valid.



Note:

The declaration of performance only applies for doors with CE mark. The allocation takes place via the ID no. printed at the door leaf (label).



Reference:

The declarations of performance can be found in the download under www.teckentrup.biz.

General Information on this installation manual

All dimensions in millimeters (mm).
Subject to technical changes.

