

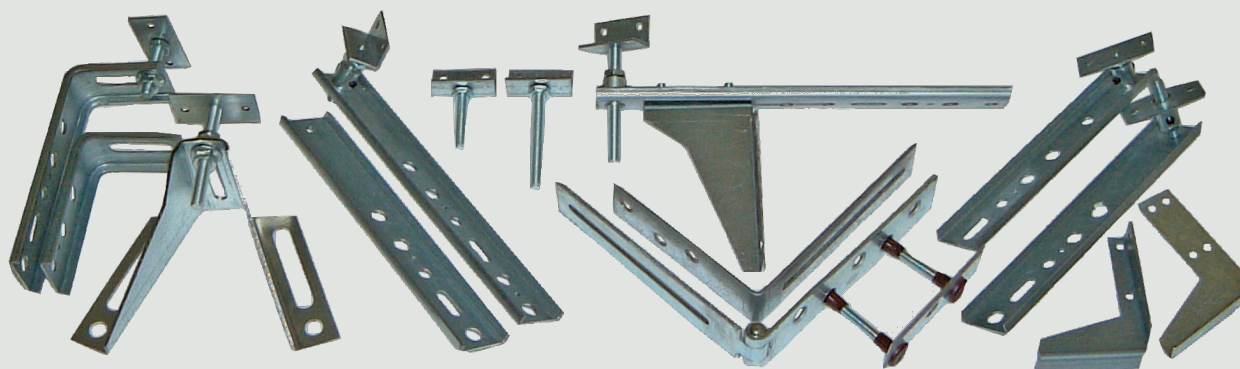


**Entwicklung und Herstellung**

# K-UNIVERSALANKER

**The load-bearing connection**

 Made in Germany



## Window Mounting

**Catalogue August 2023**

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## Important information

Technical changes and errors excepted. Technical diagrams can be found on our website.

You can find our terms and conditions can be found under: [www.knelsen.de/agb](http://www.knelsen.de/agb)

# About us

The Knelsen GmbH was founded in 2004 by the twin brothers Anatoli and Waldemar Knelsen with former headquarter in the district Bosenholz, Salzkotten. However, the idea of founding was formed earlier.

Waldemar Knelsen, who has worked as a window fitter since 1990 and has been self-employed since 1996, was repeatedly faced by assembly situations that could not be solved with conventional fastening materials. He developed solutions that were applied directly to the site. For further development and production of the products, his brother Anatoli Knelsen, locksmith, fitted perfectly. Since then, Team Knelsen tries to find a solution for every assembly problem.

Today we are characterized by our practice-oriented customer service, a large variety of products and their pragmatic commitment.

We support training for the window assembly and also offer own trainings in our premises since 2017.



*Founders of the company 2005 (from left):  
Waldemar Knelsen - window fitter,  
Anatoli Knelsen - locksmith*



Also visit us on



Instagram  
@knelsengmbh



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Knelsen GmbH



Facebook  
@knelsengmbh

## Orders

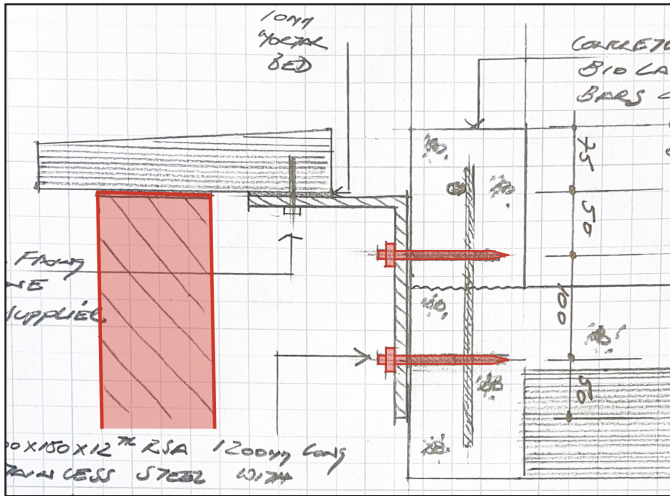
Phone: +49 5258 93766-95  
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E-Mail: [info@knelsen.de](mailto:info@knelsen.de)

## Technical Support

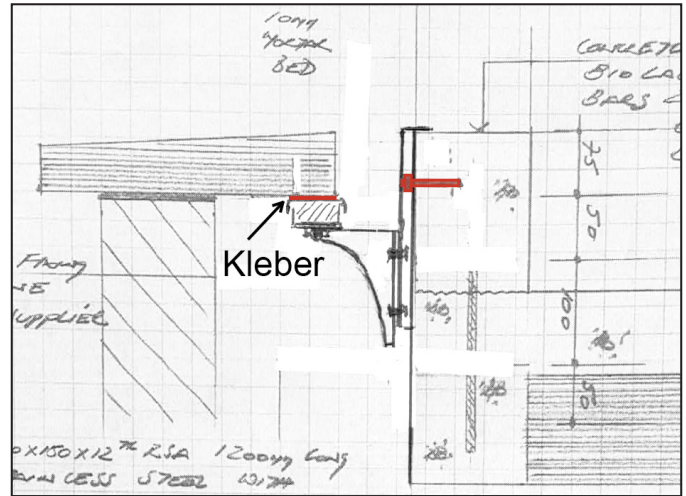
Phone: +49 5258 93766-96  
E-Mail: [info@knelsen.de](mailto:info@knelsen.de)

You can contact us from Monday to Friday from 7.30am to 4pm.

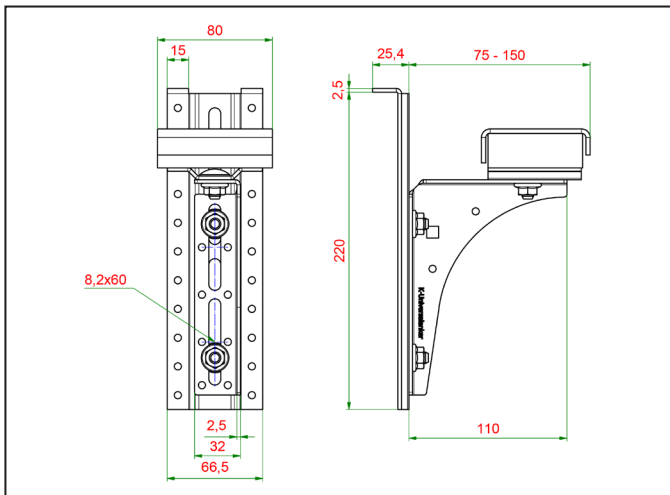
Due to our large product range, we have the possibility to quickly create new product combinations.



1. Request from the customer: For the windowsill installation, the clinker must be ready. If the clinker brick is ready, the dowels cannot be setted.



2. Our solution enables window sill installation with existing clinker, is infinitely adjustable and offers high load transfer.



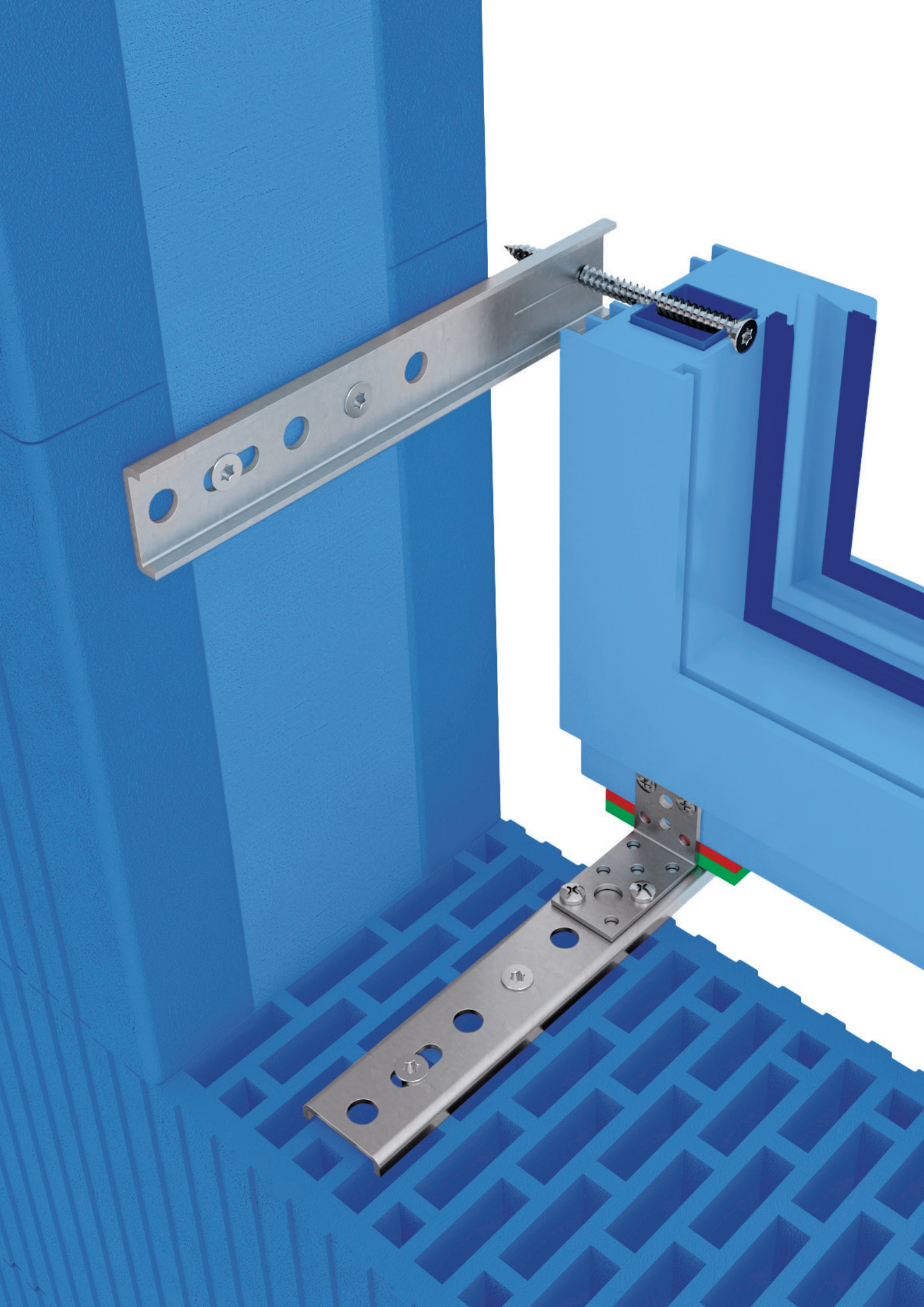
3. created diagram



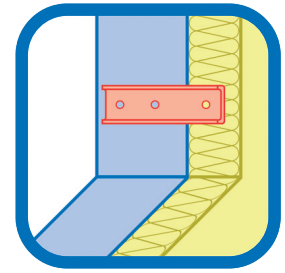
4. Unique custom design combined from BAP-SLW - BAP-Heavy Load Angle and T-SFBH - Thermal Stone Window Sill Bracket

## Custom sizes

If we do not have the required product size in our range, or if you need a different hole pattern, please send us your enquiry to [info@knelsen.de](mailto:info@knelsen.de).



# Anchoring in the Reveal



Mounting takes place in the reveal.

The element is partially or entirely positioned in the insulating layer.

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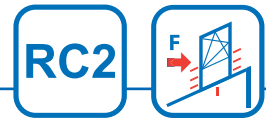
## Legend of certifications



Certified for resistance class RC2



Certified for fall protection



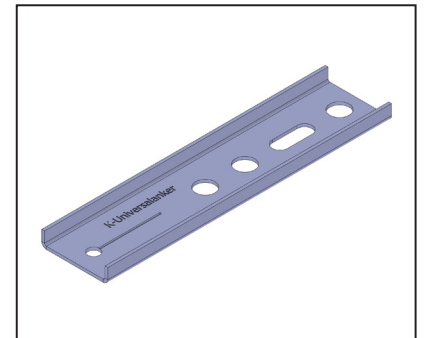
### 1.1. EL-Anchor - U-Profile - The Simple Solution

- simple and fast mounting of windows in the insulation layer
- suitable for all systems (aluminium, wood, plastic)
- the direct screwing through the window into the anchor is a proved wedging
- simple handling during modifications or replacing the window
- certified mounting to the masonry (hollow brick, aerated concrete brick)
- window mounting in accordance with resistance class RC2 from a material thickness of 2.5 mm
- suitable for fall-proof window mounting
- maximum load tested by ift-Rosenheim



EL-Anchor - U-Profile

Article-No.	Article name [mm] length x material thickness	Units
K-405100	EL-150x1,5 U-Profile	50
K-405100-1	EL-150x2,5 U-Profile	50
K-405102	EL-200x1,5 U-Profile	50
K-405104	EL-200x2,5 U-Profile	50
K-405104-1	EL-200x3,0 U-Profile	50
K-405105	EL-250x1,5 U-Profile	50
K-405106	EL-250x2,5 U-Profile	50
K-405106-1	EL-250x3,0 U-Profile	50
K-405107	EL-300x3,0 U-Profile	50
K-405108	EL-350x3,0 U-Profile	50



EL-150x1,5 U-Profile

#### ift-Rosenheim verification number

Tested for loads in the window layer:

11-003442-PR06 PB-K26-09-de-01,

14-002150-PR01 PB-K26-09-de-01,

18-003796-PR01 PB-K26-09-de-01

1	Material thickness	maximum load / overhang A					
		30 mm	50 mm	70 mm	100 mm	130 mm	160 mm
	1,5 mm	136 kg	80 kg	44 kg	-	-	-
	2,5 mm	175 kg	110 kg	58 kg	27 kg*	14 kg*	8 kg*
	3,0 mm	208 kg*	160 kg*	114 kg	44 kg	27 kg	14 kg

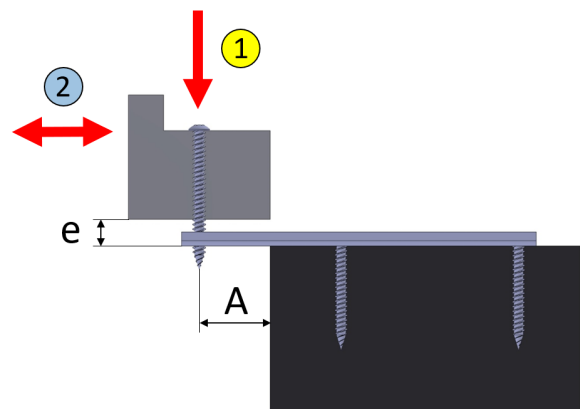
\*approximate value based on test reports

#### ift-Rosenheim verification number

Tested for loads which are perpendicular to the window layer:

18-000650-PR01 PB 04-K26-09-de-01

2	Material thickness	tested joint width e	maximum load
	2,5 mm	20 mm	157 kg



## Installation instruction

### Preparation

6.0 mm holes must be pre-drilled into the window frame.

### Step 1

Place the window frame into the opening, align it and fix it by using, for example, wedges and blocks.

### Step 2


Screw the Ø7.5 mm Window Mounting Screw through the window frame until the tip of the screw becomes visible in the window seam.

### Step 3

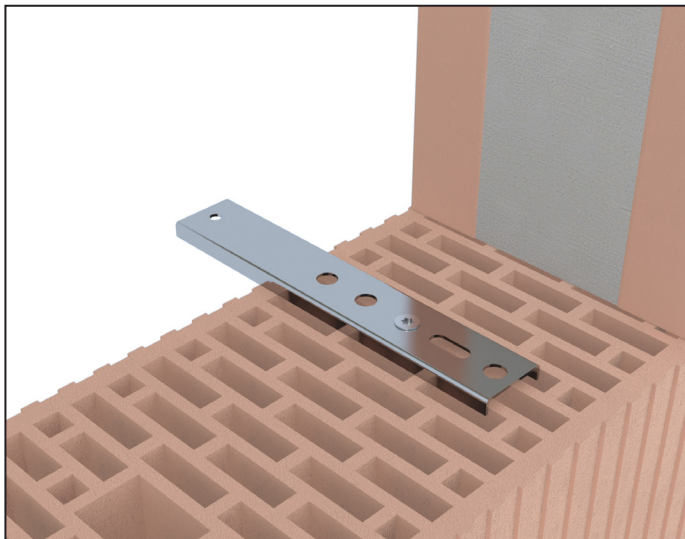
The EL-Anchor with the 6.0 mm drilled hole has to be placed over the tip of the screw and the Window Mounting Screw is screwed directly into the anchor. **This connection with the Ø7.5 mm Window Mounting Screw is a wedging and RC2 resistance class approved.**

### Step 4

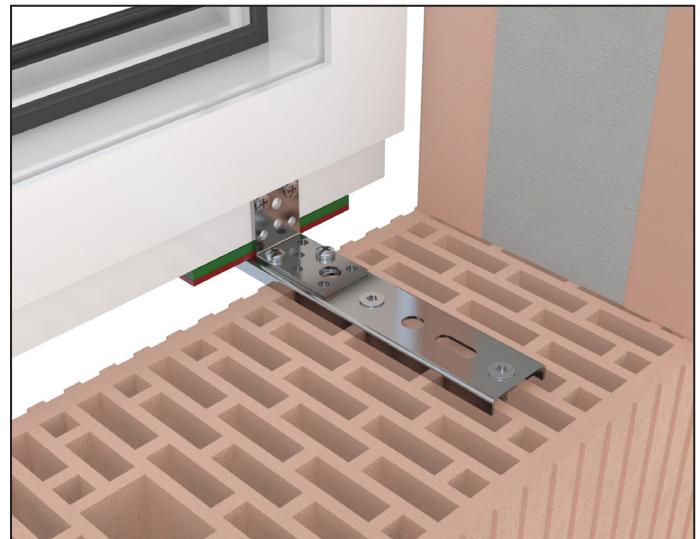
Connect the EL-Anchor with at least two mounting points to the masonry.

 A „simple solution“ is also given when removing windows that were installed with the EL-Anchor. Simply remove the Ø7.5 mm Window Mounting Screw. The new window is mounted onto the existing EL-Anchors. If the drilled holes no longer fit, new holes can simply be drilled into the EL-Anchor and the masonry.

## EL-Anchor as a mounting aid and window fixing below



EL-Anchor as a mounting aid



Mounting to EL-Anchor : VBW-35x50x2,5  
Attachment to stone: V-Perforated Rail

to the video



## Associated products



V-Perforated Rail  
page 36



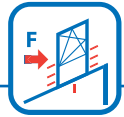
VBW - Connecting Angle  
page 10



W-Sch - Angle  
Rail page 38

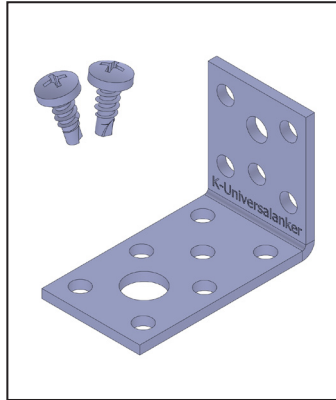


Drills  
page 144

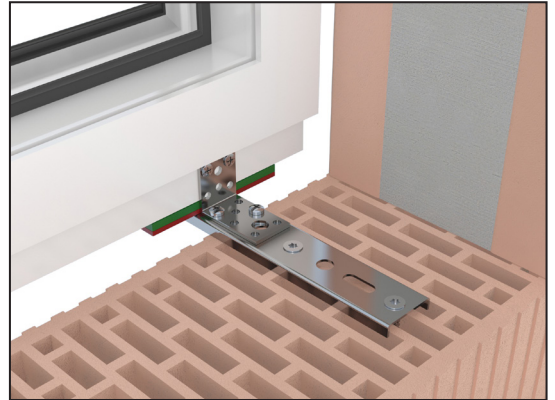


### 1.2. VBW - Connecting Angle

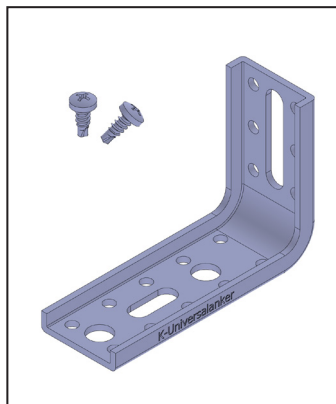
- for the connection of window and mounting anchor
- suitable for fall-proof window mounting



VBW-35x50x2,5 - Flat steel



VBW-35x50x2,5 Flat steel, EL-Anchor



VBW-65x95x2,5 U-Profile



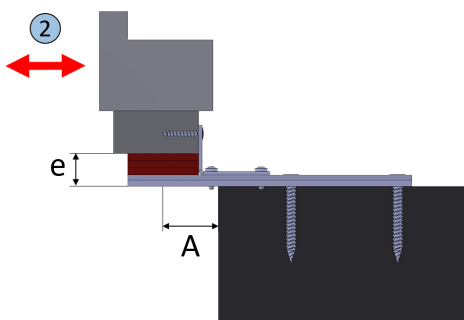
VBW-65x95x2,5 U-Profile, EL-Anchor

Article-No.	Article name [mm] length 1 x length 2 x material thickness	Shape	Units
K-405112	VBW-35x50x2,5-F-BS13	Flat Steel	50
K-405114	VBW-65x95x2,5-U-BS13	U-Profile	50
K-405116	VBW-65x145x2,5-U-BS13	U-Profile	50
K-405117	VBW-65x170x2,5-U-BS13	U-Profile	50
K-405117-3	VBW-95x140x3,0-U-BS13	U-Profile	50
K-405118-1	VBW-110x125x3,0-U-BS13	U-Profile	50
K-405118-2	VBW-110x150x3,0-U-BS13	U-Profile	50

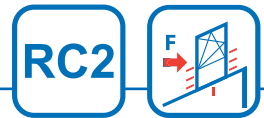
Scope of delivery per item: 1x Connecting Angle, 2x Drilling Screw Ø4.8x13

#### ift-Rosenheim verification number

Tested for loads which are perpendicular to the window layer:  
18-000650-PR01 PB 04-K26-09-de-01

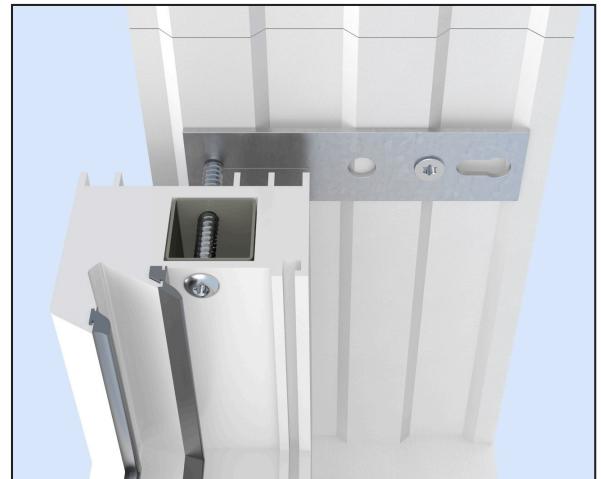


2	Article-No.	Article name [mm]	tested joint width e	maximum load
	K-405112	VBW-35x50x2,5	13 mm	139 kg

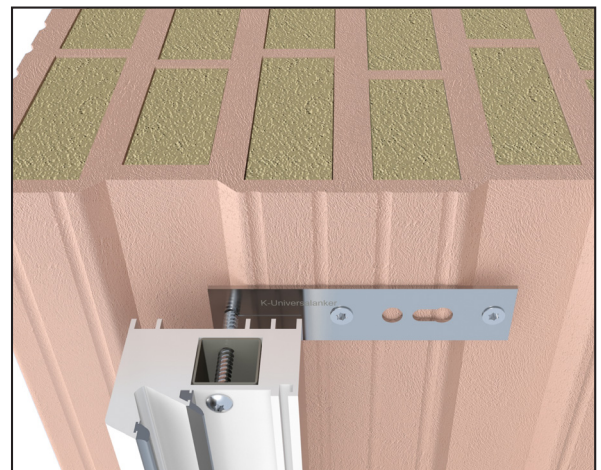


## 1.3. EL-Anchor - Flat Steel

- simple and fast mounting of windows
- suitable for all window systems (aluminium, wood, plastic)
- the direct screwing through the window into the anchor is a proved wedging
- pressure-resistant wedging, even with softer bricks
- reinforces masonry
- for securing the edge spacings
- simple handling during modification works or when replacing the window
- resistance class RC2 tested
- suitable for fall-proof window mounting
- tested according to ETB guideline (ift-Rosenheim): 17-000719-PR01



EL-150x2,5-F - sand-lime brick



EL-150x2,5-F - T8-MW-Bricks

Article-No.	Article name [mm] length x material thickness	Units
K-405098-F	EL-125x1,5 Flat steel	100
K-405099-F	EL-125x2,5 Flat steel	50
K-405100-F	EL-150x1,5 Flat steel	100
K-405101-F	EL-150x2,5 Flat steel	50
K-405104-F	EL-200x2,5 Flat steel	50
K-405106-F	EL-250x2,5 Flat steel	50
K-405107-F	EL-300x2,5 Flat steel	50

### ift-Rosenheim verification number

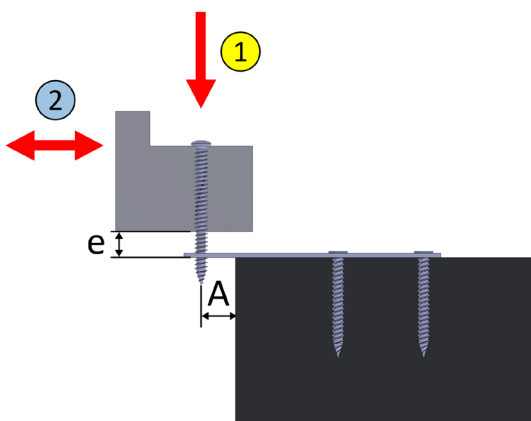
Tested for loads in the window layer:  
23-001006-PR02 PB-K26-09-de-01

1	Material thickness	maximum load / overhang A	
	2,5 mm	20 mm	30 mm
		99 kg	58 kg

### ift-Rosenheim verification number

Tested for loads which are perpendicular to the window layer:  
18-000650-PR01 PB 04-K26-09-de-01

2	Material thickness	tested joint width e	maximum load
	2,5 mm	20 mm	157 kg



### 1 Installation instruction

#### Preparation

6.0 mm holes must be pre-drilled into the window frame.



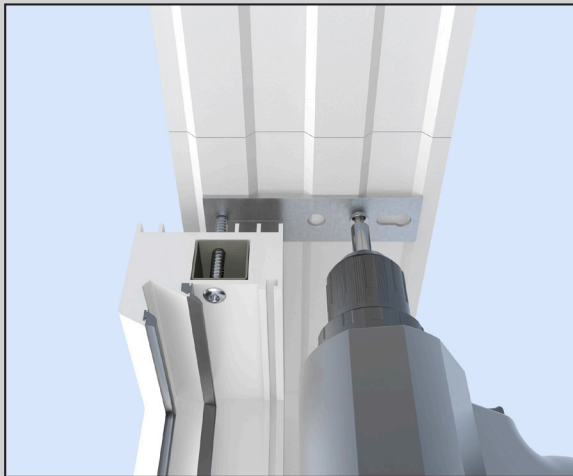
#### Step 1

Place the window frame into the opening, align it and fix it by using, for example, wedges and blocks. A hole is drilled through the window frame into the masonry.



#### Step 2

Screw the  $\varnothing 7.5$  mm Window Mounting Screw through the window frame until the tip of the screw becomes visible in the window seam. The EL-Anchor with the 6.0 mm drilled hole has to be placed opposite the tip of the screw and the Window Mounting Screw is screwed directly into the anchor, which is pushed against the masonry. **This connection with the  $\varnothing 7.5$  mm Window Mounting Screw is immediately a wedging; RC2 and wind load approved.**



#### Step 3

Fix the EL-Anchor to the masonry. By fixing the EL-Anchor to the masonry, the edge distance is secured.

to the video

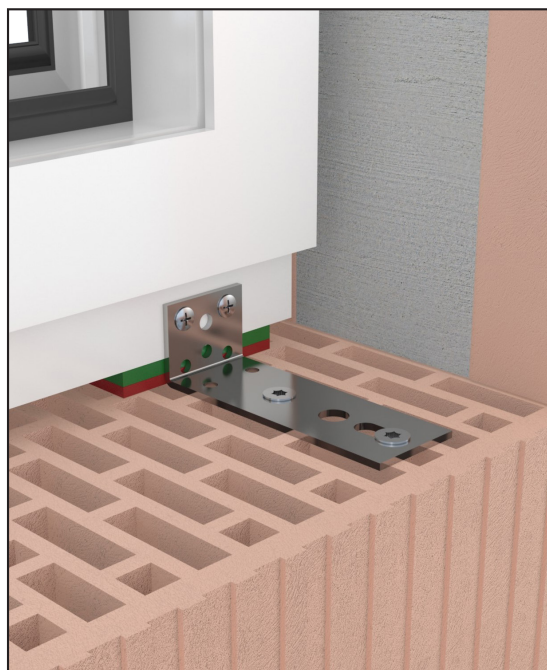


A „simple solution“ is also given when removing windows that were installed with the EL-Anchor. Simply remove the  $\varnothing 7.5$  mm Window Mounting Screw. The new window

is mounted onto the existing EL-Anchors. If the drilled holes no longer fit, new holes can simply be drilled into the EL-Anchor and the masonry.

## 1.4. FMW-Flat Steel - below

- for window mounting from below in the area of the masonry
- the long shank offers several options for mounting to the masonry



FMW-30x150x2,5

Article-No.	Article name [mm] length 1 x length 2 x material thickness	Units
K-405110-05	FMW-30x100x2,5	50
K-405110	FMW-30x150x2,5	50
K-405110-1	FMW-40x90x2,5	50
K-405110-3	FMW-50x105x2,5	50
K-405111	FMW-50x155x2,5	50

### Installation instruction

The FMW-Flat Steel is used for the mounting of resistance to wind load. The block setting takes place within the masonry. The Flat Steel Window Mounting Angle is available in various dimensions - with a short leg for the mounting to the window

sill connection profile and a long leg, which offers several options for mounting to masonry - especially in case of hollow concrete blocks in combination with the V-Perforated Rail.

### Associated products



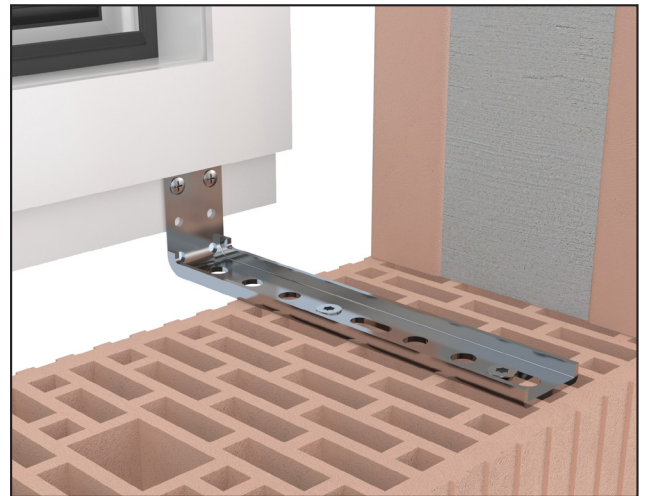
**V-Perforated Rail**  
page 36



**Drilling Screws**  
page 137

### 1 1.5. F-U-P-FMW - Flat U-Profile Window Mounting Angle

- for window mounting from below in the insulation layer
- the long shank offers several options for mounting to the masonry
- no additional blocking is needed
- no thermal bridges
- flat connection for the attachment of sealing films
- maximum load tested by ift-Rosenheim



F-U-P-FMW-50x210x2,5

Article-No.	Article name [mm] length 1 x length 2 x material thickness	Units
K-405240	F-U-P-FMW-30x160x2,5	50
K-405241	F-U-P-FMW-50x160x2,5	50
K-405242	F-U-P-FMW-70x165x2,5	50
K-405243	F-U-P-FMW-30x205x2,5	50
K-405244	F-U-P-FMW-50x210x2,5	50
K-405245	F-U-P-FMW-70x215x2,5	50
K-405246	F-U-P-FMW-30x255x2,5	50
K-405247	F-U-P-FMW-50x260x2,5	50
K-405248	F-U-P-FMW-70x265x2,5	50
K-405249	F-U-P-FMW-30x280x2,5	50
K-405250	F-U-P-FMW-50x285x2,5	50
K-405251	F-U-P-FMW-70x290x2,5	50

**ift-Rosenheim verification number**

Tested for loads in the window layer: 11-003442-PR06 PB-K26-09-de-01,  
18-003796-PR01 PB-K26-09-de-01

14-002150-PR01 PB-K26-09-de-01,

Material thickness	maximum load / overhang A					
	30 mm	50 mm	70 mm	100 mm	130 mm	160 mm
2,5 mm	175 kg	110 kg	58 kg	27 kg*	14 kg*	8 kg*

\*approximate value based on test reports

#### Installation instruction

For the wedging, the window must be positioned directly on the angle. The angle is screwed to the connection profile with at least two screws because of the wind load.

Offers several options for mounting to masonry - especially in case of hollow concrete blocks in combination with the V-Perforated Rail.

#### Associated products



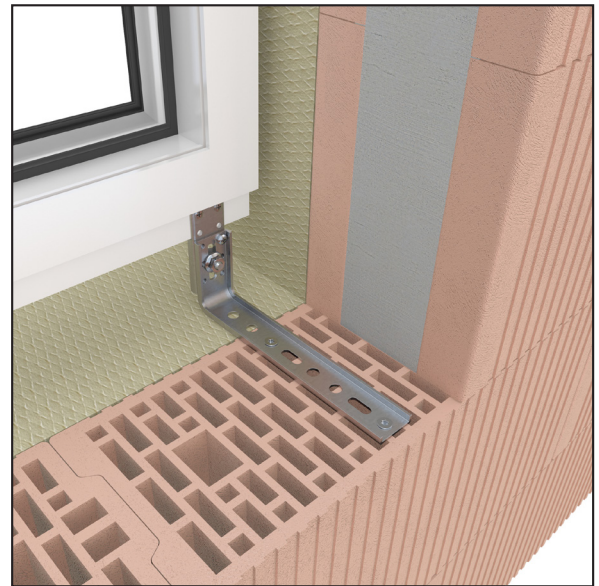
V-Perforated Rail  
page 36



Drilling Screws  
page 137

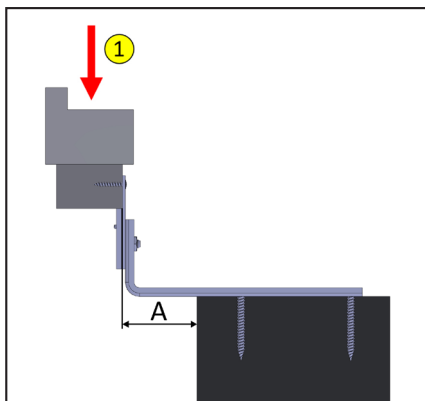
## 1.6. FMW-H - Height Adjustable

- for window fastening at the bottom of the insulation layer
- for height differences from 65 mm to a maximum of 230 mm
- steplessly adjustable wedging



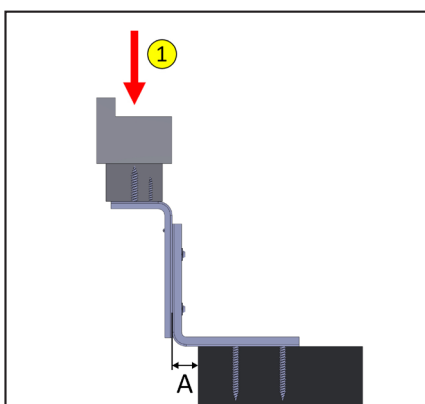
FMW-H-U-85-120x215

### FMW-H with U-Profile



Article-No.	Article name [mm]	adjustable height	Units
K-40513182	FMW-H-F-65-85x210	65 - 85 mm	10
K-40513190	FMW-H-U-85-120x215	85 - 120 mm	10
K-405132	FMW-H-U-120-185x105	120 - 185 mm	10
K-405133	FMW-H-U-150-225x135	150 - 225 mm	10

### FMW-H with FMW



Article-No.	Article name [mm]	adjustable height	Units
K-405130	FMW-H-W-105-155x105-65	105 - 155 mm	10
K-405131	FMW-H-W-145-230x135-65	145 - 230 mm	10

#### ift-Rosenheim verification number

Tested for loads in the window layer: 14-002150-PR01 PB-K26-09-de-01

1	Material thickness	maximum load / overhang A					
		30 mm	50 mm	70 mm	100 mm	130 mm	160 mm
	3,0 mm	208 kg*	160 kg*	114 kg	44 kg	27 kg	14 kg

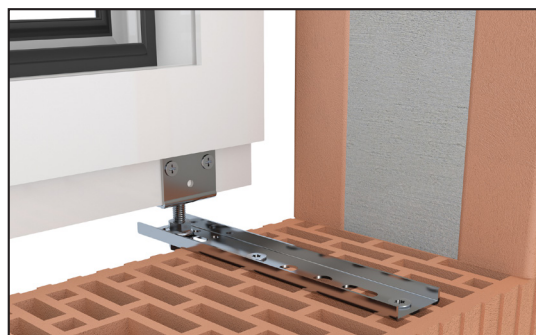
\*approximate value based on test reports

### 1 1.7. WM-Anchor and WU-Anchor

- WM-Anchor: suitable for mounting from below and laterally
- WU-Anchor: suitable for mounting from below
- suitable for all window systems (aluminum, wood, plastic)
- adjustable in three dimensions to be able to compensate structural tolerances
- application for height differences ranging from 12 mm to 50 mm
- well-suited for fixed windows with glued in glazing
- easily adjustable wedging
- window mounting in accordance with resistance class RC2 from a material thickness of 2.5 mm
- maximum load tested by ift-Rosenheim

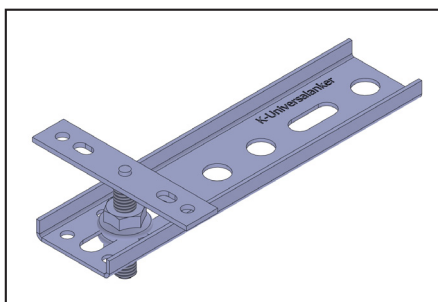


WM-Anchor - lateral



WM-Anchor - lateral

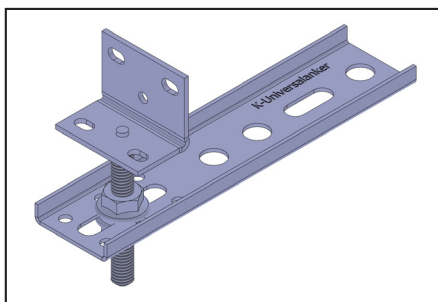
#### WM-Anchor



WM-150x1,5-40

Article-No.	Article name [mm] length x material thickness - pin length	adjustable height	Units
K-405080	WM-150x1,5-40	13 - 32 mm	50
K-405081	WM-150x1,5-60	13 - 52 mm	50
K-405084	WM-200x1,5-40	13 - 32 mm	50
K-405085	WM-200x1,5-60	13 - 52 mm	50
K-405088	WM-200x2,5-40	13 - 32 mm	50
K-405089	WM-200x2,5-60	13 - 52 mm	50
K-405092	WM-250x2,5-40	13 - 32 mm	50
K-405093	WM-250x2,5-60	13 - 52 mm	50
K-405094	WM-300x3,0-40	13 - 32 mm	50
K-405095	WM-300x3,0-60	13 - 52 mm	50
K-405096	WM-350x3,0-40	13 - 32 mm	50
K-405097	WM-350x3,0-60	13 - 52 mm	50

#### WU-Anchor



WU-150x1,5-60

Article-No.	Article name [mm] length x material thickness - pin length	adjustable height	Units
K-405141	WU-150x1,5-60	13 - 52 mm	50
K-405142	WU-150x2,5-60	13 - 52 mm	50
K-405145	WU-200x1,5-60	13 - 52 mm	50
K-405149	WU-200x2,5-60	13 - 52 mm	50
K-405153	WU-250x2,5-60	13 - 52 mm	50
K-405155	WU-300x3,0-60	13 - 52 mm	50
K-405156	WU-350x3,0-60	13 - 52 mm	50

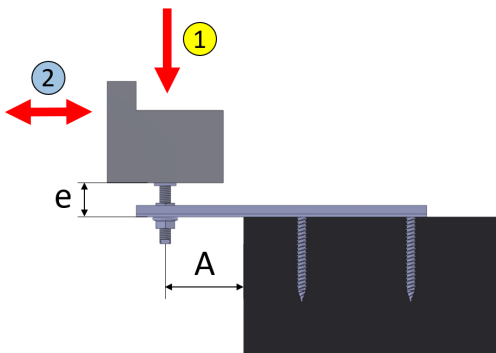
**ift-Rosenheim verification number**

Tested for loads in the window layer:

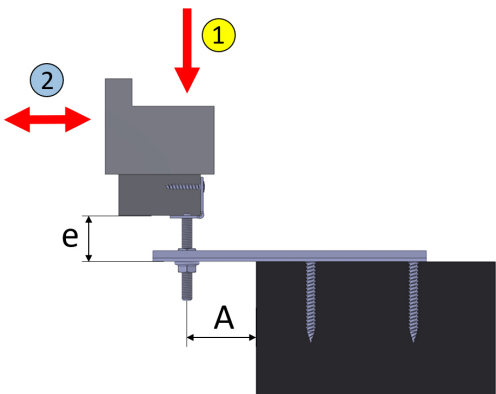
11-003442-PR06 PB-K26-09-de-01, 14-002150-PR01 PB-K26-09-de-01, 18-003796-PR01 PB-K26-09-de-01

1	Material thickness	maximum load / overhang A					
		30 mm	50 mm	70 mm	100 mm	130 mm	160 mm
	1,5 mm	136 kg	80 kg	44 kg	-	-	-
	2,5 mm	175 kg	110 kg	58 kg	27 kg*	14 kg*	8 kg*
	3,0 mm	208 kg*	160 kg*	114 kg	44 kg	27 kg	14 kg

\*approximate value based on test reports



Lateral mounting



Mounting below

**ift-Rosenheim verification number**

Tested for loads which are perpendicular to the window layer:

12-002151-PR07\_PB-E03-09-de-02, 21-001960-PR02 PB 04-K26-09-de-01

2	tested joint width e	maximum load
	36 mm	68 kg
54 mm	43 kg	

**Installation instruction**

**Step 1**

Fix the U-Profile to the masonry, then position the window onto the Adjusting Element, adjust it laterally and screw the angle connection to the window sill connection profile.

**Step 2**

Readjust the height and depth of the window and screw the Adjusting Element securely into the slotted hole.



For a smooth installation, we recommend a joint width of 15 -30 mm.

**Associated products**

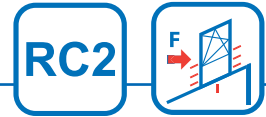


V-Perforated Rail  
page 36

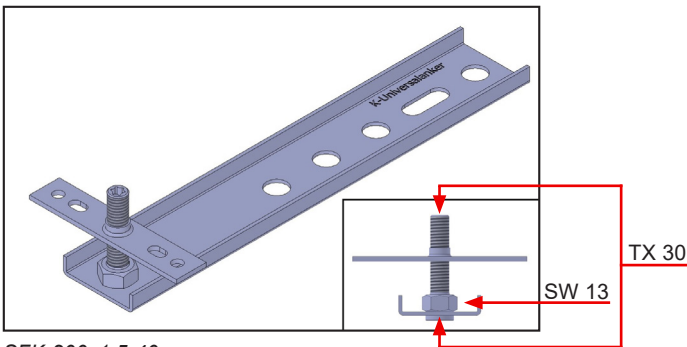
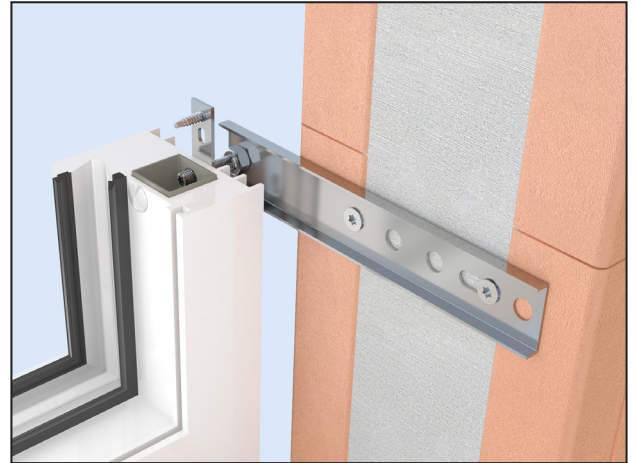


W-Sch - Angle  
Rail page 38

### 1 1.8. SFK-Anchor - U-Profile



- suitable for all window systems (aluminium, wood, plastic)
- window can be readjusted after plastering
- window mounting without visible holes in the frame
- well-suited for fixed windows with glued in glazing
- easily adjustable wedging
- maximum load tested by ift-Rosenheim
- suitable for fall-proof window mounting
- window mounting in accordance with resistance class RC2 from a material thickness of 2.5 mm  
PIV verification number: 45-6/21



SFK-200x1,5-40

Article-No.	Article name [mm] length x material thickness - pin length	adjustable height	Units
K-148995	SFK-150x1,5-40	10 - 35 mm	50
K-149004	SFK-150x1,5-60	10 - 55 mm	50
K-148996	SFK-150x2,5-40	10 - 35 mm	50
K-149004-2	SFK-150x2,5-60	10 - 55 mm	50
K-149000	SFK-200x1,5-40	10 - 35 mm	50
K-149005	SFK-200x1,5-60	10 - 55 mm	50
K-149000-2	SFK-200x2,5-40	10 - 35 mm	50
K-149005-2	SFK-200x2,5-60	10 - 55 mm	50
K-149001	SFK-250x2,5-40	10 - 35 mm	50
K-149006	SFK-250x2,5-60	10 - 55 mm	50
K-149001-3	SFK-250x3,0-40	12 - 35 mm	50
K-149006-3	SFK-250x3,0-60	12 - 55 mm	50
K-149002	SFK-300x3,0-40	12 - 35 mm	50
K-149007	SFK-300x3,0-60	12 - 55 mm	50
K-149003	SFK-350x3,0-40	12 - 35 mm	50
K-149008	SFK-350x3,0-60	12 - 55 mm	50

#### Associated products



Cover Caps  
page 136



Bit-TX  
page 139

**ift-Rosenheim verification number**

Tested for loads in the window layer:

11-003442-PR06 PB-K26-09-de-01, 14-002150-PR01 PB-K26-09-de-01, 18-003796-PR01 PB-K26-09-de-01

1	Material thickness	maximum load / overhang A					
		30 mm	50 mm	70 mm	100 mm	130 mm	160 mm
	1,5 mm	136 kg	80 kg	44 kg	-	-	-
	2,5 mm	175 kg	110 kg	58 kg	27 kg*	14 kg*	8 kg*
	3,0 mm	208 kg*	160 kg*	114 kg	44 kg	27 kg	14 kg

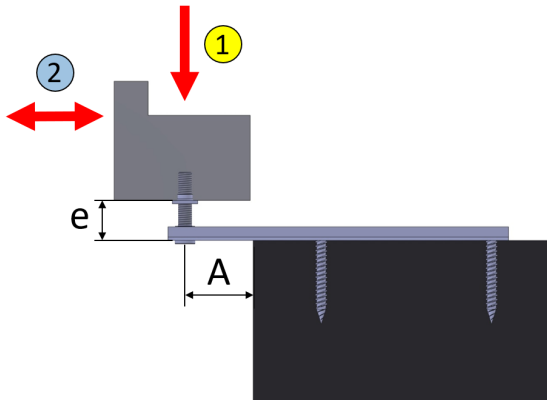
\*approximate value based on test reports

**ift-Rosenheim verification number**

Tested for loads which are perpendicular to the window layer:

18-000650-PR01 PB 03-K26-09-de-01

2	tested joint width e	maximum load
	20 mm	170 kg



**Installation instruction**

**Preparation**

10.0 mm holes must be pre-drilled into the window frame from the rear side.

**Step 1**

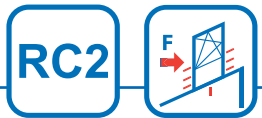
Place the anchor with the threaded pin into the drilled hole and fix the connection plate to the window frame.

**Step 2**

Place the window in the opening and adjust the height. The window can also be readjusted when plastered.

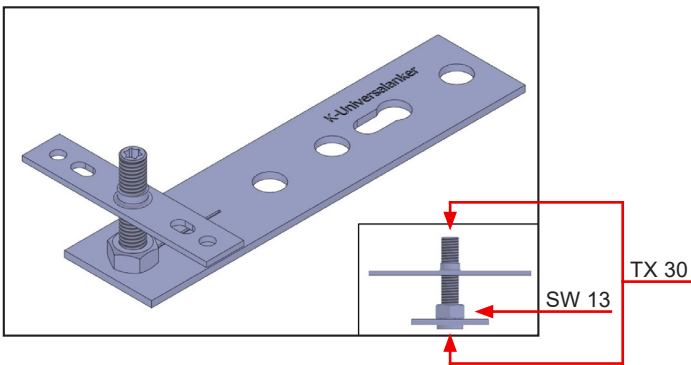
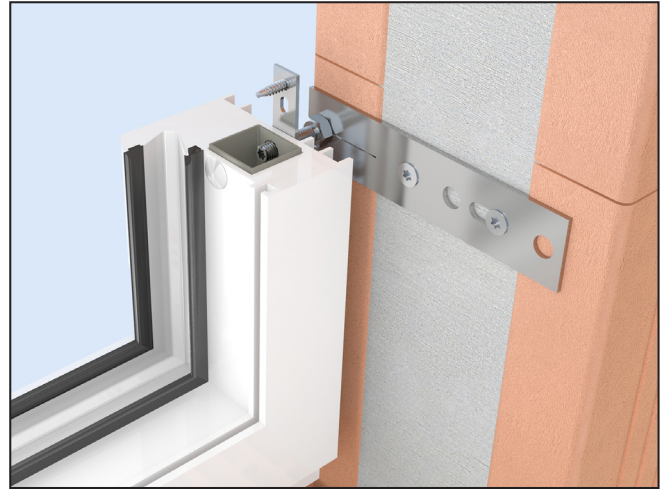
**Step 3**

Connect the SFK-Anchor with at least two mounting points to the masonry.

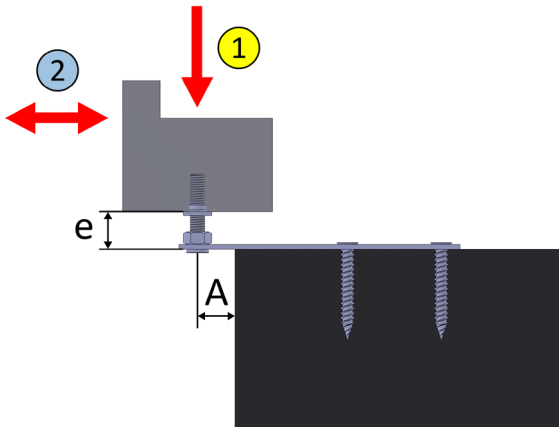


1.9. SFK-Anchor - Flat Steel

- suitable for all window systems (aluminium, wood, plastic)
- window can be readjusted after plastering
- window mounting without visible holes in the frame
- well-suited for fixed windows with glued in glazing
- easily adjustable wedging
- for mounting in the reveal
- suitable for fall-proof window mounting
- resistance class RC2 tested  
PIV test number: 45-6/21



Article-No.	Article name [mm] length x material thickness - pin length	adjustable height	Units
K-148992-F	SFK-125x2,5-F-40	10 - 35 mm	50
K-149003-10-F	SFK-125x2,5-F-60	10 - 55 mm	50
K-148996-F	SFK-150x2,5-F-40	10 - 35 mm	50
K-149004-2-F	SFK-150x2,5-F-60	10 - 55 mm	50



*ift-Rosenheim verification number*  
Tested for loads in the window layer:  
23-001006-PR02 PB-K26-09-de-01

<b>1</b>	<b>Material thickness</b>	<b>maximum load / overhang A</b>	
	2,5 mm	20 mm	30 mm
		99 kg	58 kg

*ift-Rosenheim verification number*  
Tested for loads which are perpendicular to the window layer:  
18-000650-PR01 PB 03-K26-09-de-01

<b>2</b>	<b>tested joint width e</b>	<b>maximum load</b>
	20 mm	170 kg

## Installation instruction

### Preparation

10.0 mm holes must be pre-drilled into the window frame from the rear side.

### Step 1

Place the anchor with the threaded pin into the drilled hole and fix the connection plate to the window frame.

### Step 2

Place the window in the opening and adjust the height. The window can also be readjusted when plastered.

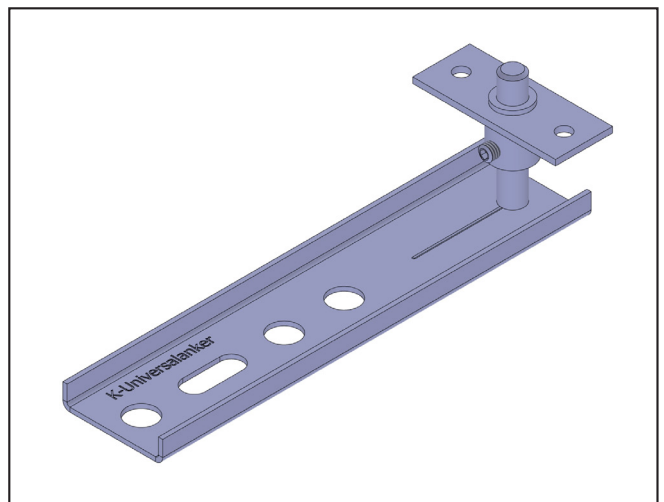
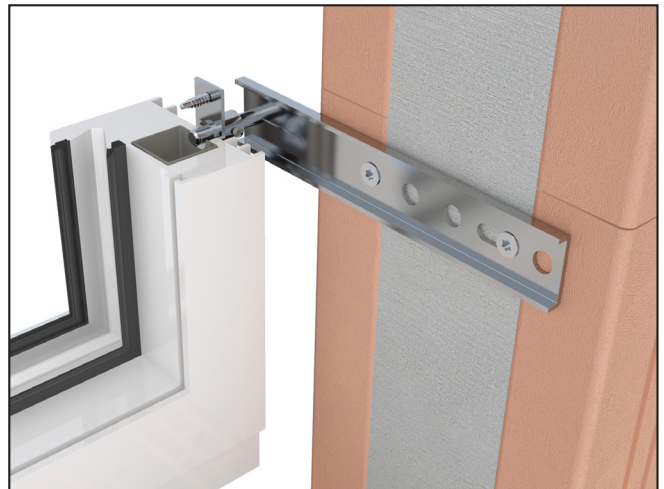
### Step 3

Connect the SFK-Anchor with at least two mounting points to the masonry.

### 1 1.10. W-Anchor

RC2

- suitable for all window systems (aluminium, wood, plastic)
- window mounting without visible holes in the frame
- well-suited for fixed windows with glued in glazing
- steplessly adjustable wedging
- window mounting in accordance with resistance class RC2 from a material thickness of 2.5 mm
- maximum load tested by ift-Rosenheim
- can also be used as a floating bearing



W-150x1,5-40-Sleeve14

Article-No.	Article name [mm] length x material thickness - pin length - sleeve height	Units
K-405002	W-150x1,5-40-H10	25
K-405001	W-150x1,5-40-H14	25
K-405006	W-200x1,5-40-H10	25
K-405005	W-200x1,5-40-H14	25
K-405010	W-200x2,5-40-H10	25
K-405009	W-200x2,5-40-H14	25
K-405011	W-250x2,5-40-H10	25
K-405013	W-250x2,5-40-H14	25
K-405012	W-300x3,0-40-H10	25
K-405014	W-300x3,0-40-H14	25
K-405016	W-350x3,0-40-H10	25
K-405015	W-350x3,0-40-H14	25

Scope of delivery per item: 1x W-Anchor U-Profile, 1x connection element with grub screw

**ift-Rosenheim verification number**

Tested for loads in the window layer:

11-003442-PR06 PB-K26-09-de-01, 14-002150-PR01 PB-K26-09-de-01, 18-003796-PR01 PB-K26-09-de-01

Material thickness	maximum load / overhang A					
	30 mm	50 mm	70 mm	100 mm	130 mm	160 mm
1,5 mm	136 kg	80 kg	44 kg	-	-	-
2,5 mm	175 kg	110 kg	58 kg	27 kg*	14 kg*	8 kg*
3,0 mm	208 kg*	160 kg*	114 kg	44 kg	27 kg	14 kg

\*approximate value based on test reports

### Installation instruction

For frame profiles with indentations, the 14.0 mm sleeve has to be selected in order that the grub screw can be reached. In case of profiles without indentations, the 10.0 mm sleeve will suffice.

#### Preparation

The window frame has to be pre-drilled with with 10.0 mm holes from the rear side. Therefore, the hole is not visible from inside.

#### Step 1

The connection element is secured in a way that the pin can insert into the frame hole.

By using the guide sleeve and the pin, the window can be steplessly adjusted. The wedging is possible via using the grub screw and is RC2-certified.

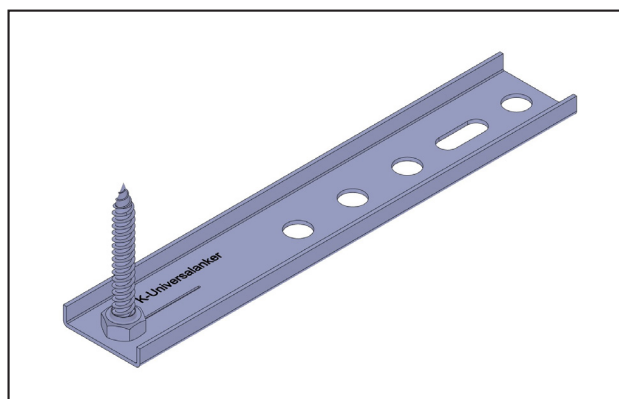
1 1.11. FMS-Anchor - U-Profile



- suitable for all window systems (aluminium, wood, plastic)
- window mounting without visible holes in the frame
- well-suited for fixed windows with glued in glazing
- easily adjustable wedging
- maximum load tested by ift-Rosenheim
- suitable for fall-proof window mounting
- resistance class RC2 tested from a material thickness of 2.5 mm, PIV test number: 45-6/21



FMS-Anchor at the wooden window



FMS-200x1,5-7,5x62

Article-No.	Article name [mm] length x material thickness - screw	Units
K-149110	FMS-150x1,5-7,5x62	50
K-149120	FMS-150x2,5-7,5x62	50
K-149130	FMS-200x1,5-7,5x62	50
K-149140	FMS-200x2,5-7,5x62	50
K-149160	FMS-250x2,5-7,5x62	50
K-149170	FMS-300x3,0-7,5x62	50
K-149180	FMS-350x3,0-7,5x62	50

Additional screw lengths are available on request.

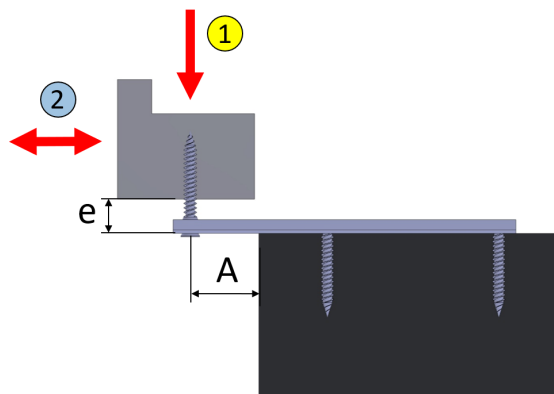
**ift-Rosenheim verification number**

Tested for loads in the window layer:

11-003442-PR06 PB-K26-09-de-01, 14-002150-PR01 PB-K26-09-de-01, 18-003796-PR01 PB-K26-09-de-01

1	Material thickness	maximum load / overhang A					
		30 mm	50 mm	70 mm	100 mm	130 mm	160 mm
	1,5 mm	136 kg	80 kg	44 kg	-	-	-
	2,5 mm	175 kg	110 kg	58 kg	27 kg*	14 kg*	8 kg*
	3,0 mm	208 kg*	160 kg*	114 kg	44 kg	27 kg	14 kg

\*approximate value based on test reports



**ift-Rosenheim verification number**

Tested for loads which are perpendicular to the window layer:

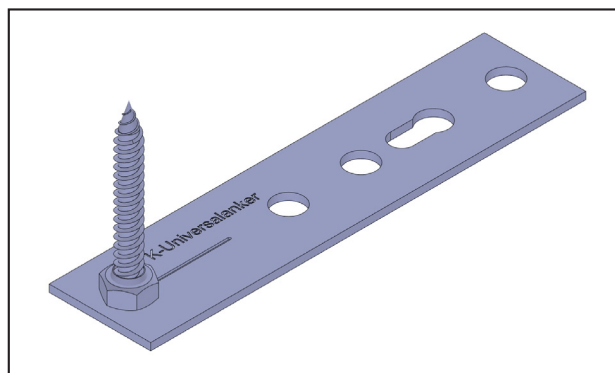
19-002405-PR01 PB 01-K26-09-de-02

2	tested joint width e	maximum load
	20 mm	92 kg

1 1.12. FMS-Anchor - Flat Steel

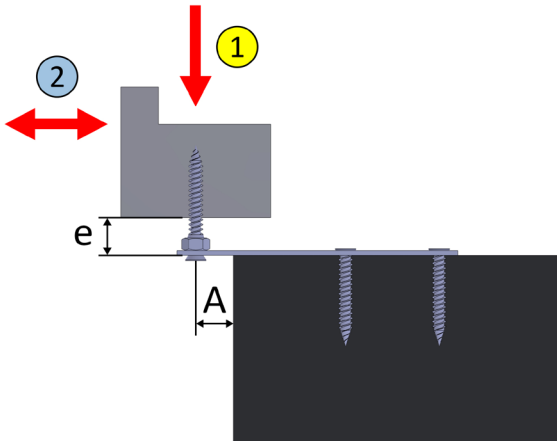


- suitable for all window systems (aluminium, wood, plastic)
- window mounting without visible holes in the frame
- well-suited for fixed windows with glued in glazing
- easily adjustable wedging
- for mounting in the reveal
- suitable for fall-proof window mounting
- resistance class RC2 tested  
PIV test number: 45-6/21



Article-No.	Article name [mm] length x material thickness - screw	Units
K-14909307	FMS-125x1,5-F-7,5x72	50
K-14909312	FMS-125x1,5-F-7,5x112	50
K-14909404	FMS-125x2,5-F-7,5x42	50
K-149095-F	FMS-125x2,5-F-7,5x62	50
K-14909505	FMS-125x2,5-F-7,5x72	50
K-14909550	FMS-150x1,5-F-7,5x72	50
K-14909570	FMS-150x1,5-F-7,5x112	50
K-149120-F	FMS-150x2,5-F-7,5x62	50

Additional screw lengths are available on request.



**ift-Rosenheim verification number**

Tested for loads in the window layer:  
23-001006-PR02 PB-K26-09-de-01

1	Material thickness	maximum load / overhang A	
	2,5 mm	20 mm	30 mm
		99 kg	58 kg

**ift-Rosenheim verification number**

Tested for loads which are perpendicular to the window layer:  
19-002405-PR01 PB 01-K26-09-de-02

2	tested joint width e	maximum load
	20 mm	92 kg

**Installation instruction**

**Preparation**

Pre-drill the window frame with 6.0 mm holes from the rear side.

**Step 1**

Drill the screw of the anchor into the hole.

**Step 2**

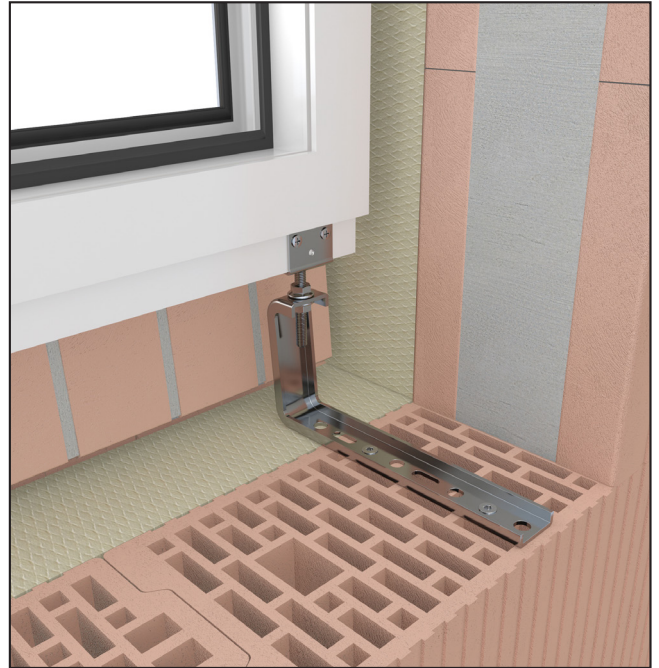
Place the window in the window opening and adjust the height.

**Step 3**

Fasten the FMS anchor with at least two fixing points to the masonry.

1 1.13. WU-Bracket

- suitable for all window systems (aluminum, wood, plastic)
- developed for clinker construction with brick-on-end course
- easily adjustable wedging
- maximum load tested by ift-Rosenheim



WU-Bracket 110-150x220x2,5

Article-No.	Article name [mm] adjustable height x length x material thickness - adjusting element	adjustable height	Connection	Units
K-405170	WU-Bracket-75-115x230x2,5-W	75 - 115 mm	Angle connection	25
K-405171	WU-Bracket-110-150x220x2,5-W	110 - 150 mm	Angle connection	25
K-405172	WU-Bracket-75-115x230x2,5-F	75 - 115 mm	Flat connection	25
K-405173	WU-Bracket-110-150x220x2,5-F	110 - 150 mm	Flat connection	25

Scope of delivery per item: 1x WU-Bracket U-Profile, 1x Adjusting Element

Associated products



V-Perforated Rail  
page 36



W-Sch - Angle  
Rail page 38

**ift-Rosenheim verification number**

Tested for loads in the window layer:

11-003442-PR06 PB-K26-09-de-01, 14-002150-PR01 PB-K26-09-de-01, 18-003796-PR01 PB-K26-09-de-01

Material thickness	maximum load / overhang A					
	30 mm	50 mm	70 mm	100 mm	130 mm	160 mm
<b>2,5 mm</b>	175 kg	110 kg	58 kg	27 kg*	14 kg*	8 kg*
<b>3,0 mm</b>	208 kg*	160 kg*	114 kg	44 kg	27 kg	14 kg

\*approximate value based on test reports

**Installation instruction**

**Step 1**

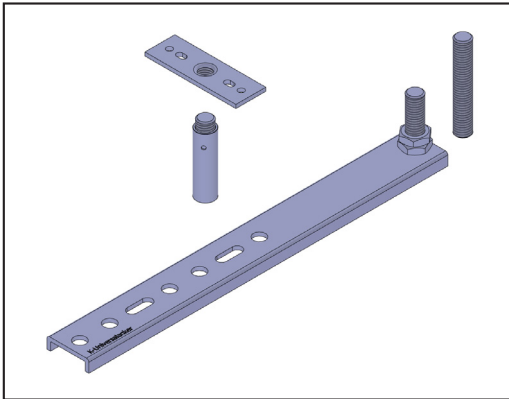
The window has to be fixed into the window opening.

**Step 2**

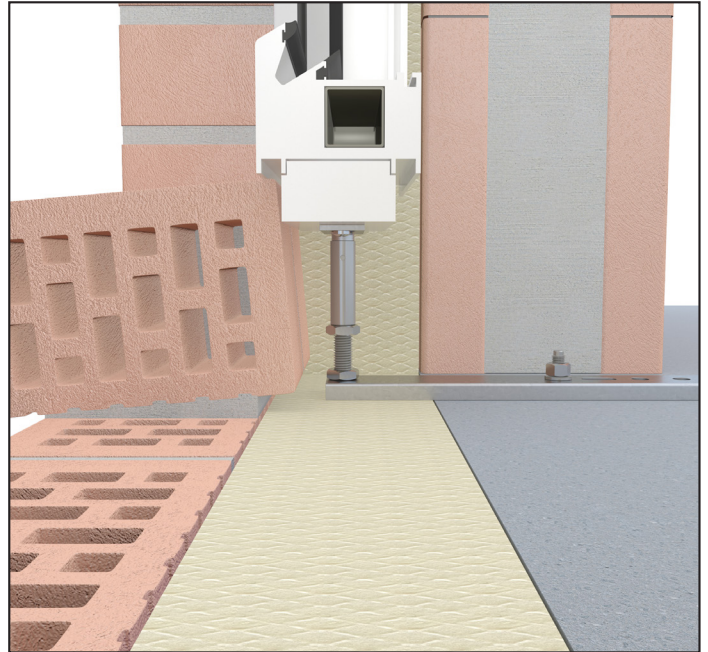
The WU-Bracket is adjusted to the correct height, screwed to the connection profile and fixed to the masonry.

1 1.14. J-Strut

- for height differences from 80 mm to a maximum of 270 mm
- easily adjustable wedging



J-Strut-300x3,0-M12x80-115



J-Strut-300x3,0-M12x80-115

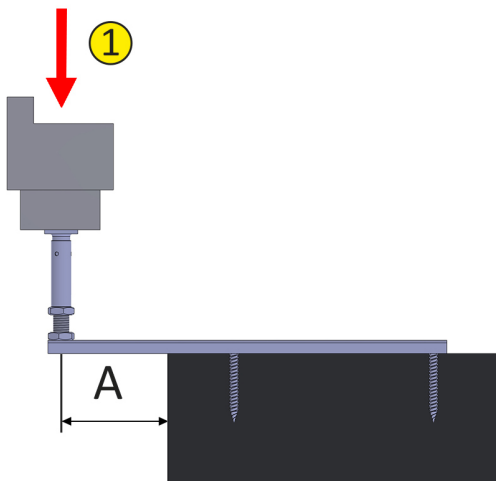
Article-No.	Article name [mm] length x material thickness - threaded pin - adjustable height	adjustable height	Units
K-000432	J-Strut-300x3,0-M12x80-115	80 - 115 mm	25
K-000435	J-Strut-300x3,0-M12x115-205	115 - 205 mm	25
K-000438	J-Strut-300x3,0-M12x160-270	160 - 270 mm	25
Scope of delivery per item: 1x U-Profile, 1x sleeve, 1x Adjusting Element M12, 3x hexagon nut, threaded bolt: 1x M12x50, 1x M12x70			

**ift-Rosenheim verification number**

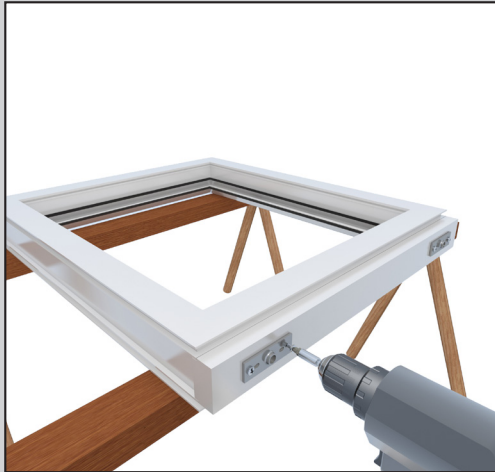
Tested for loads in the window layer: 14-002150-PR01 PB-K26-09-de-01

1	Material thickness	maximum load / overhang A					
		30 mm	50 mm	70 mm	100 mm	130 mm	160 mm
	3,0 mm	208 kg*	160 kg*	114 kg	44 kg	27 kg	14 kg

\*approximate value based on test reports

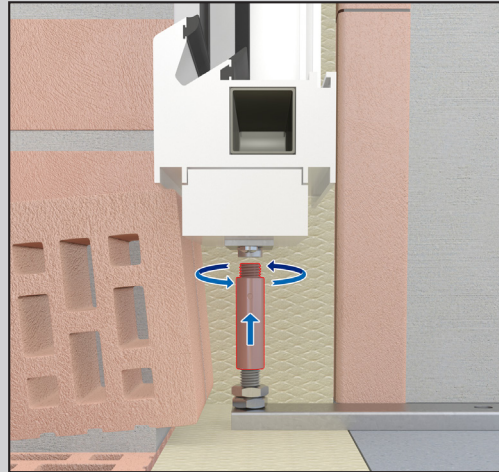


Installation instruction



**Step 1**

The Connection Plate is screwed to the Junction Profile.



**Step 2**

Place the window into the window opening using mounting aids and fix it. Screw the sleeve into the connection plate.



**Step 3**

Fix the J-Strut with heavy-duty dowels to the concrete floor and readjust the height.

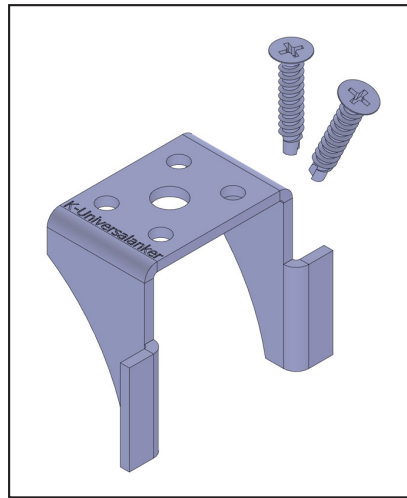


**Step 4**

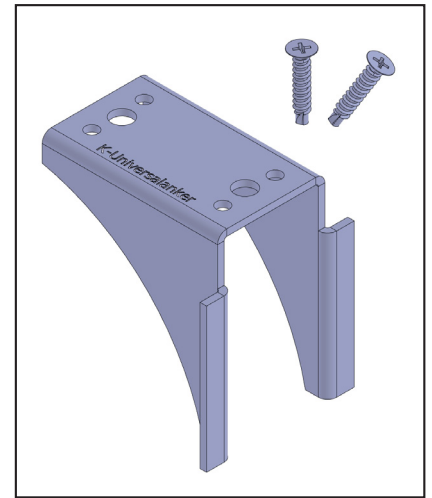
Installed state.

1 1.15. U-Strut

- increases the load transference of U-Profiles
- suitable for all U-Profile Anchors
- easy retrofitting



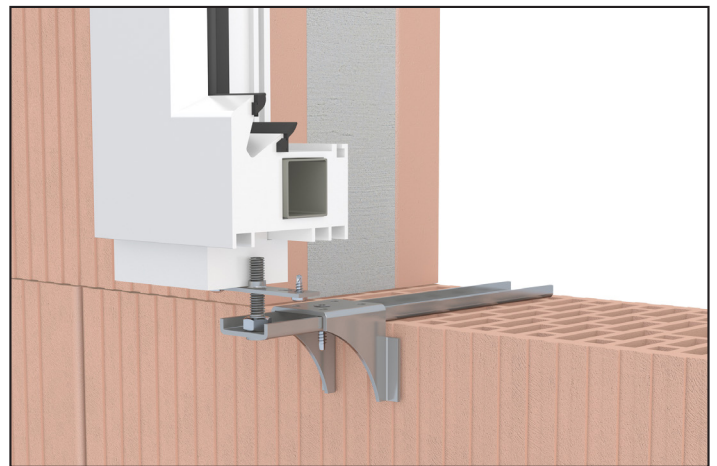
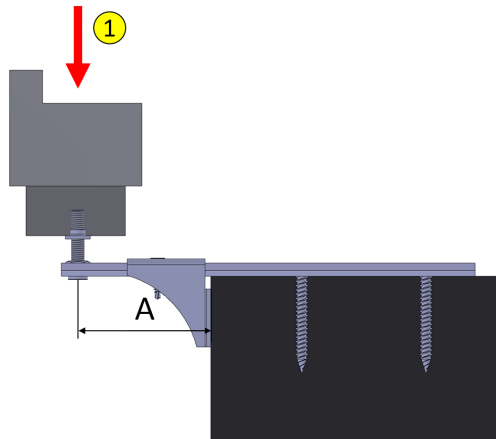
U-Strut-30x2,5



U-Strut-70x2,5

Article-No.	Article name [mm] length x material thickness	Units
K-405410	U-Strut-30x2,5	25
K-405415	U-Strut-50x2,5	25
K-405420	U-Strut-70x2,5	25
K-405425	U-Strut-90x2,5	25
K-405430	U-Strut-110x2,5	25

Scope of delivery per item: 1x U-Strut, 2x drilling screw Ø4,8x25



**ift-Rosenheim verification number**

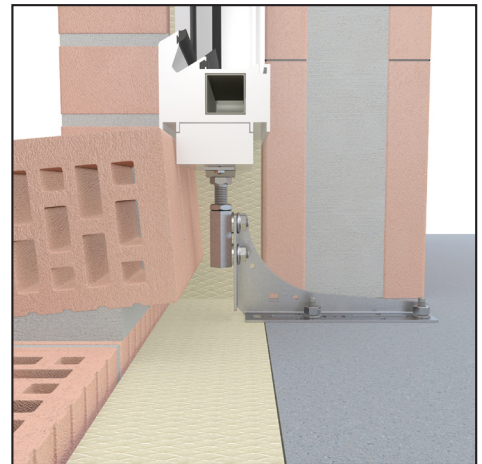
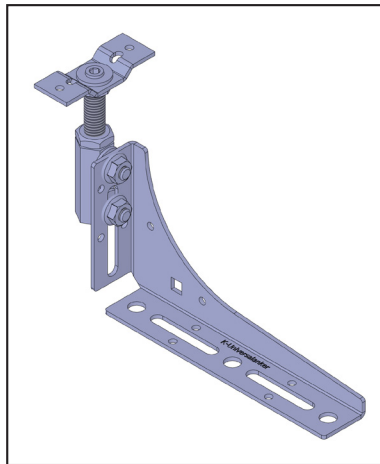
Tested for loads in the window layer: 21-004805-PR02 PB-K25-09-de-01

1	2,5 mm U-Profile	overhang [mm]	additional load transference
	with U-Strut 30	70	+ 55 kg
	with U-Strut 50	90	+ 59 kg

1	3,0 mm U-Profile	overhang [mm]	additional load transference
	with U-Strut 90	130	+ 69 kg
	with U-Strut 110	150	+ 77 kg

## 1.16. WU-Strut

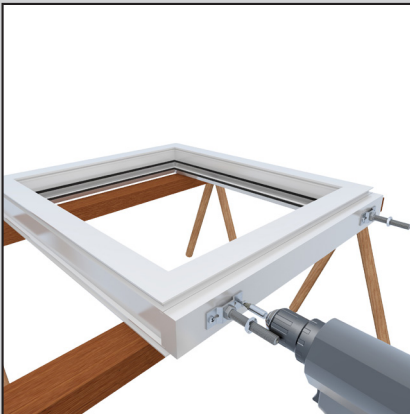
- suitable for all window systems (aluminium, wood and plastic)
- easily adjustable blocking
- can be adjusted from above, below and from the side



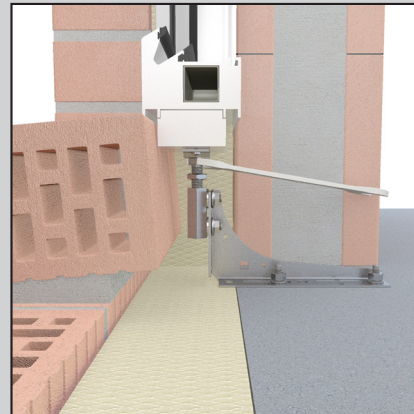
Article-No.	Article name [mm] angle type angular dimensions - thread x adjustable height	angle type	adjustable height	Units
K-00033400	WU-Strut-U65x120x3,0-M12x85-135	U-Profile	85 - 135 mm	10
K-00034000	WU-Strut-U95x140x3,0-M12x115-165	U-Profile	115 - 165 mm	10
K-00034090	WU-Strut-S95x180-M12x115-165	SLW	115 - 165 mm	10
K-00034100	WU-Strut-S120x200-M12x140-190	SLW	140 - 190 mm	10
K-00034120	WU-Strut-S150x200-M12x170-220	SLW	170 - 220 mm	10

Scope of delivery per item: 1x WU-Adjusting Element-M12x70-F, 1x Angle

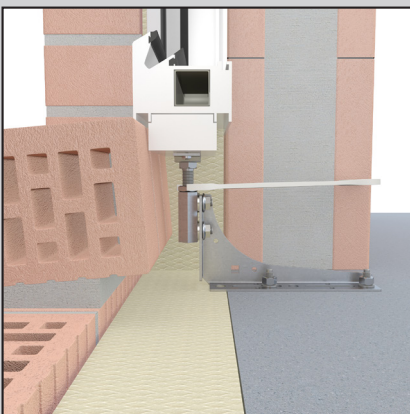
### Installation instruction



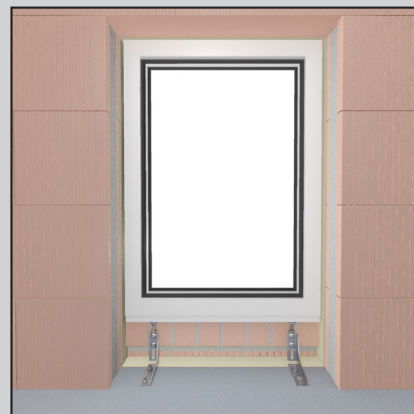
**Step 1**  
The Connection Plate is screwed to the Junction Profile.



**Step 2**  
Adjustment is done via the threaded pin.



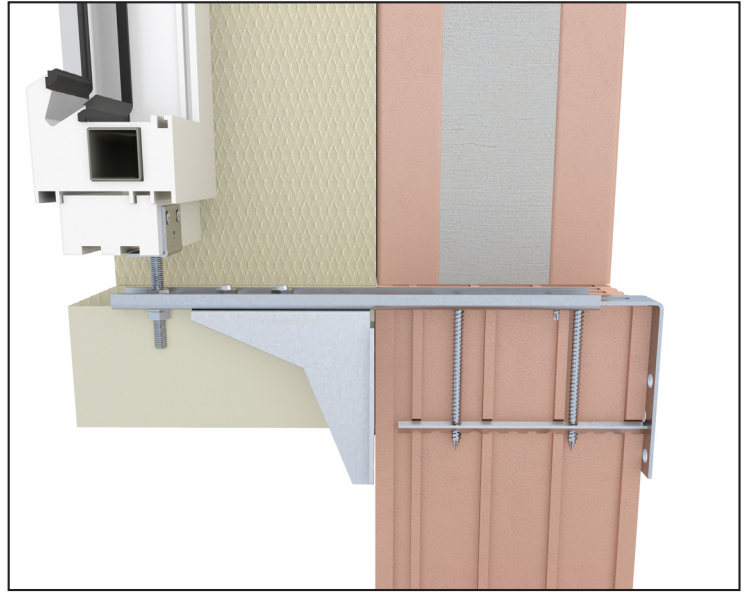
**Step 3**  
The counter nut secures the adjustment and against movement.



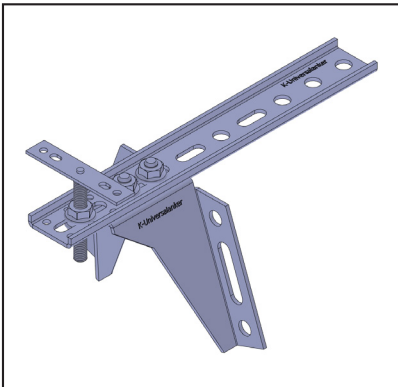
**Step 4**  
Installed state.

1 1.17. WU-ST-Anchor

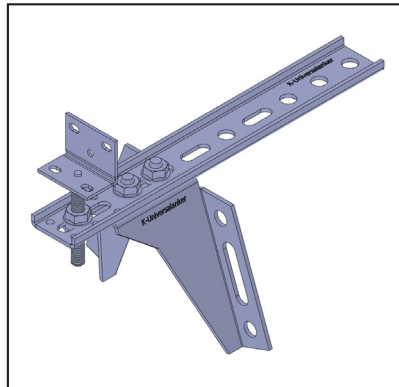
- suitable for all window systems (aluminum, wood, plastic)
- offers high load transference with great overhang
- easily adjustable wedging
- maximum load tested by ift-Rosenheim



WU-ST-Anchor with angle connection



Flat connection (-F)



Angle connection (-W)

Article-No.	Article name [mm] length x material thickness - pin length - connection	Units
K-405070-F	WU-ST-250x2,5-65-F	25
K-405070-W	WU-ST-250x2,5-65-W	25
K-405071-F	WU-ST-300x3,0-110-F	25
K-405071-W	WU-ST-300x3,0-110-W	25
K-405072-F	WU-ST-350x3,0-155-F	25
K-405072-W	WU-ST-350x3,0-155-W	25

Scope of delivery per item: 1x U-Profile, 1x Adjusting Element, 1x support bracket, 2x Carriage Bolt M8x16, 2x Flange Nut M8

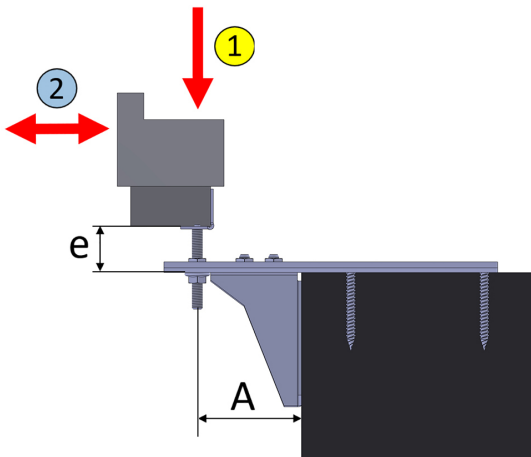
**ift-Rosenheim verification number**

Tested for loads in the window layer: 12-002151-PR09, 12-002151-PR10

1	Article	maximum load / overhang A					
		80 mm	90 mm	100 mm	110 mm	120 mm	130 mm
1	WU-ST-250x2,5-65	331 kg	252 kg*	192 kg*	141 kg*	104 kg*	78 kg*
		140 mm	150 mm	160 mm	170 mm	180 mm	
1	WU-ST-300x3,0-110	196 kg	164 kg*	140 kg*	122 kg*	110 kg*	
		180 mm	190 mm	200 mm	210 mm	220 mm	230 mm
1	WU-ST-350x3,0-155	132 kg	122 kg*	105 kg*	92 kg*	83 kg*	76 kg*

\*approximate value based on test reports

Since the support of the WU-ST anchor is not always in positive contact, positional changes of up to 2.0 mm occur when the window is placed. For this reason, the loads in the window plane are specified for a 5.0 mm change in position.



**ift-Rosenheim verification number**

Tested for loads which are perpendicular to the window layer:

12-002151-PR07\_PB-E03-09-de-02, 21-001960-PR02 PB 04-K26-09-de-01

2	tested joint width e	maximum load
	36 mm	68 kg
54 mm	43 kg	

**Installation instruction**

**Step 1**

The U-profile has to be fixed to the masonry. The support is pushed up to the masonry and screwed to the U-Profile with two carriage bolts. The support creates a drag to the U-Profile. In case of fixing to the hollow concrete block, an Angle Rail must be used to absorb the forces.

**Step 2**

Place the window onto the adjusting element, position it laterally and fix the angle connection to the window sill connection profile. Readjust the window in height and depth and fix the adjusting element in the slotted hole.



For a smooth installation, we recommend a joint width of 15-30 mm.

**Associated products**



**V-Perforated Rail**  
page 36



**W-Sch - Angle Rail**  
page 38

1 1.18. V-Perforated Rail



- for secure mounting on the vertically perforated brick
- tested by ift-Rosenheim

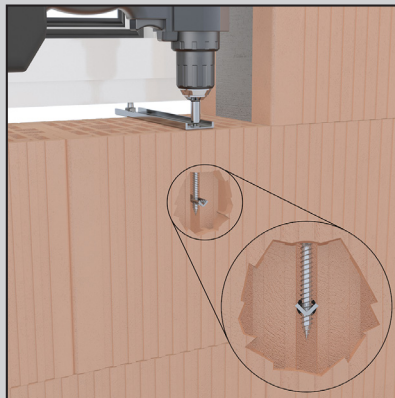
Article-No.	Article name [mm] length	Length	Units
K-405179	V-Perforated Rail-160	160 mm	100
K-405180	V-Perforated Rail-200	200 mm	100

Installation instruction



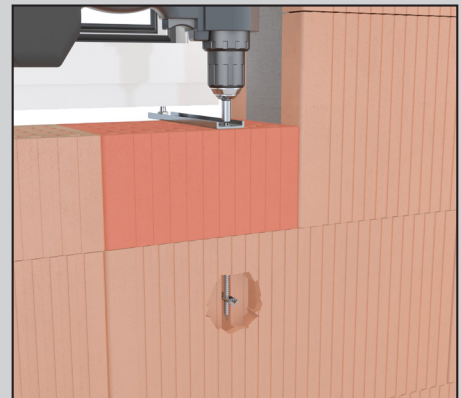
**Step 1**

Drill a Ø10.0 mm hole at least 80 mm beneath the anchor. Then insert the V-Perforated Rail using a hammer.



**Step 2**

Screw two Ø7.5 mm Window Mounting Screws through the anchor from above into the V-Perforated Rail, and tighten it.



**Special case**

If the compensation slabs of a window opening are not connected to the masonry, they must not be loaded with leverage forces. The V-Perforated Rail is inserted into the stone below and tightened with a Ø7.5mm Window Mounting Screw.

to the video



Associated products

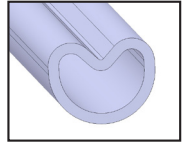
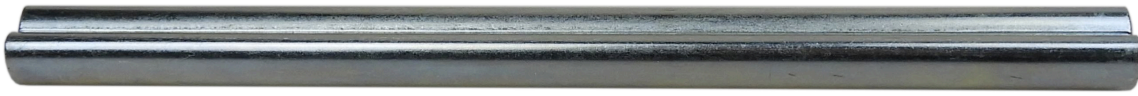


**Window Mounting Screws**  
page 134



**Drills**  
page 144

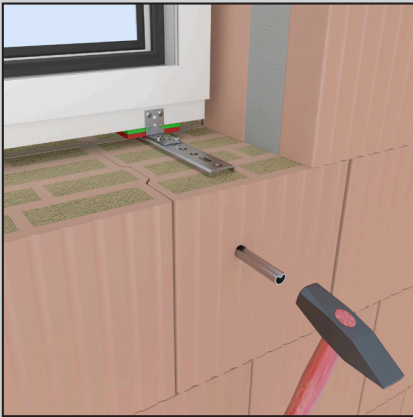
## 1.19. V-Static-Tube



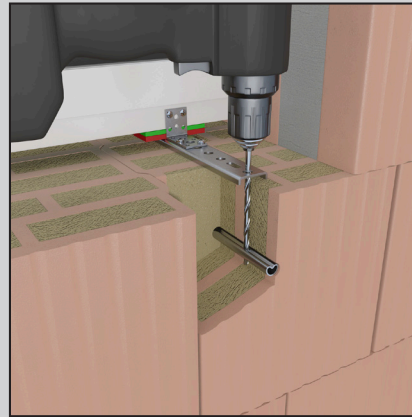
- for secure window mounting on the vertically perforated brick with big chambers

Article-No.	Article name [mm] length	Length	Units
K-405183	V-Static-Tube-200	200 mm	50

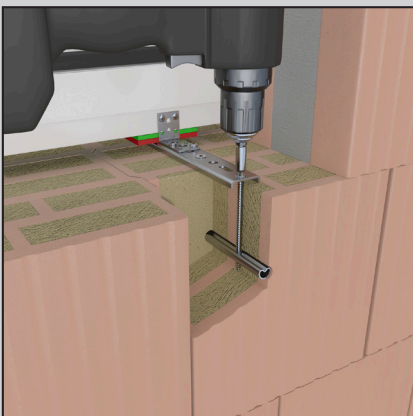
### Installation instruction



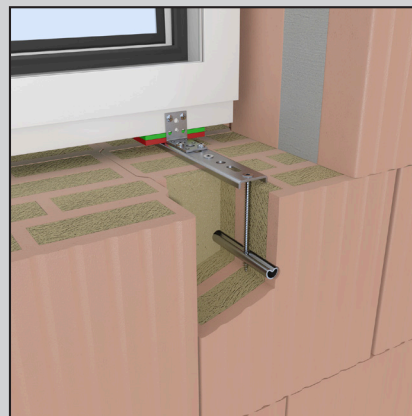
**Step 1**  
Drill a  $\text{\O}16.0$  mm hole at least 80 mm beneath the anchor. Then insert the V-Static-Tube using a hammer.



**Step 2**  
Pre-drill the V-Static-Tube through the anchor with a  $\text{\O}6$  mm drill.



**Step 3**  
Screw two  $\text{\O}7.5$  mm Window Mounting Screws through the anchor from above into the V-Static-Tube, and tighten it.



**Step 4**  
Installed state.

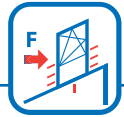
### Associated products



**Window Mounting Screws**  
page 134

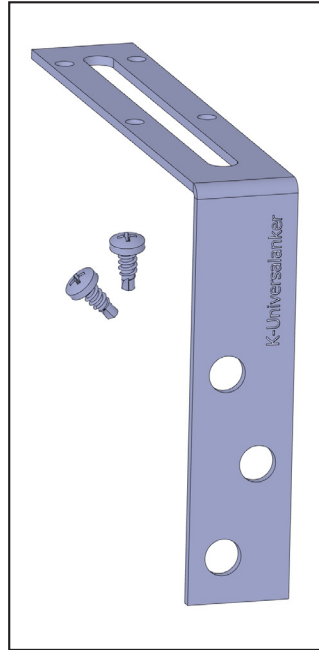


**Drills**  
page 144



1 1.20. W-Sch - Angle Rail

- secure mounting of the anchor to the masonry
- developed for fall protection
- compensates moments of tilt
- tested by ift-Rosenheim



W-Sch-140x115

Article-No.	Article name [mm] length 1 x length 2	Units
K-405029	W-Sch-140x115	50
K-405029-1	W-Sch-140x250	50

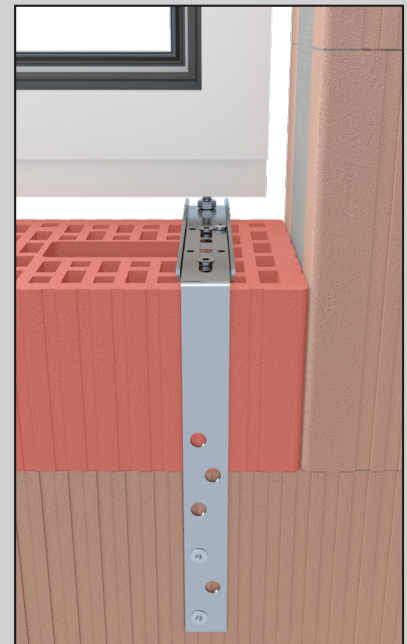
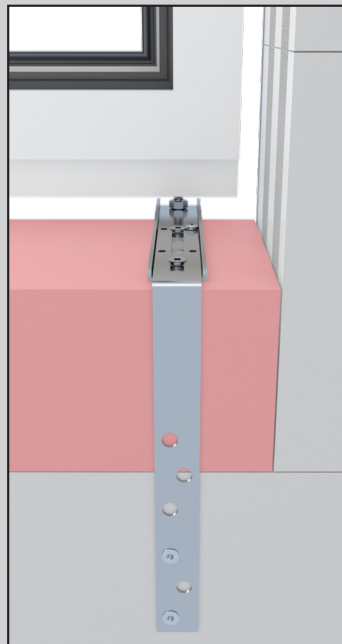
Scope of delivery per item: 1x Angle Rail, 2x Drilling Screw Ø4,8x13

Installation instruction

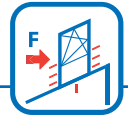
For anchor mounting, the Angle Rail is screwed to the anchor with at least two Drilling Screws and fixed with two dowels to the side of the masonry.

**Special case**

If the compensation slabs of a window opening are not connected to the masonry, they must not be loaded with leverage forces. The large Angle Rail is used to carry out the mounting to the stone below.

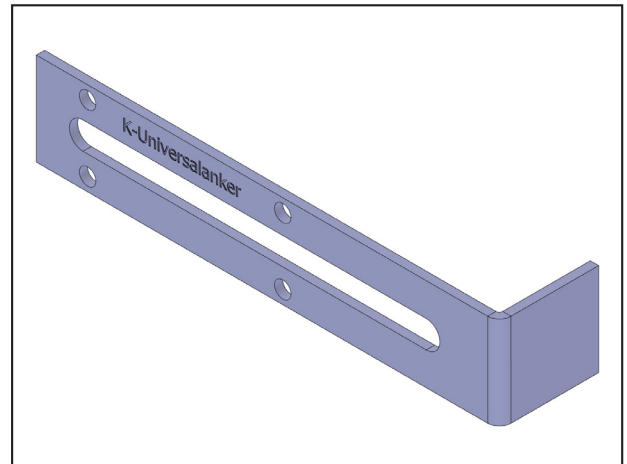


Special case - W-Sch-140x250

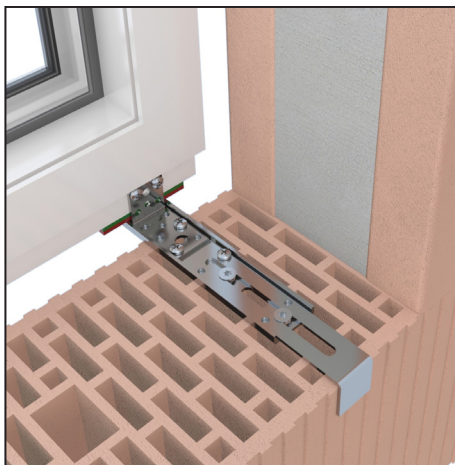


## 1.21. Angle Rail set for mounting according to ETB-Guidelines

- developed for the fall protection with perforated bricks
- tested with a 17.5 mm stone and is transferable to all thicker perforated bricks
- tested by ift-Rosenheim



Article-No.	Article name [mm] length 1 x length 2	Units
K-405029-20	W-Sch-140x30 - ETB	50
Scope of delivery per item: 1x Angle Rail, 2x Drilling Screw Ø4.8x13, 2x Dowel 10x50, 2x Window Mounting Screw Ø7.5x42-SK		



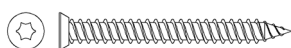
For more information about the secure window mounting according to ETB-Guidelines, ask for our brochure „Fall protection with K-Universal Anchors“ or visit our website.  
**tested according to ETB guidelines (ift-Rosenheim): 17-000719-PR03 PB-K26-09-de-02**

Fall Protection



[www.knelsen.de](http://www.knelsen.de)

### Associated products



**Window Mounting Screws**  
page 134



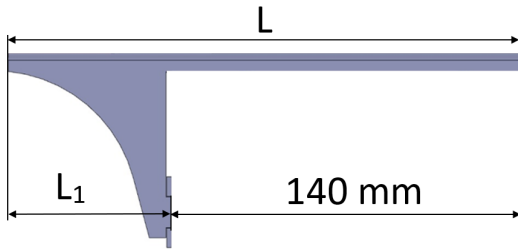
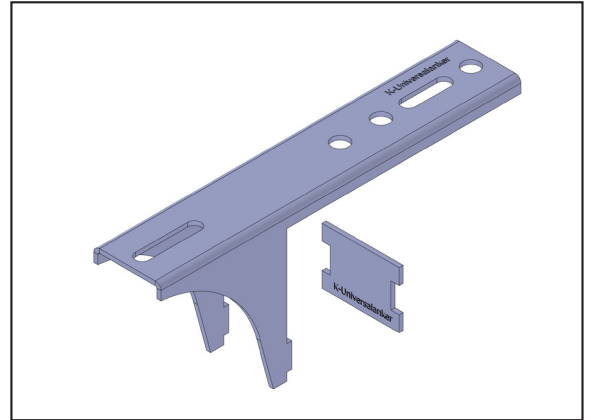
**Dowels**  
page 136



**Drills**  
page 144

1 1.22. SL-Console - Heavy Load Bracket

- suitable for all window systems (aluminium, wood, plastic)
- offers high load transference with great overhang
- enclosed Protection Plate protects the masonry and distributes point load on area load
- maximum load tested by ift-Rosenheim
- many possible combinations with other K-Universal anchors



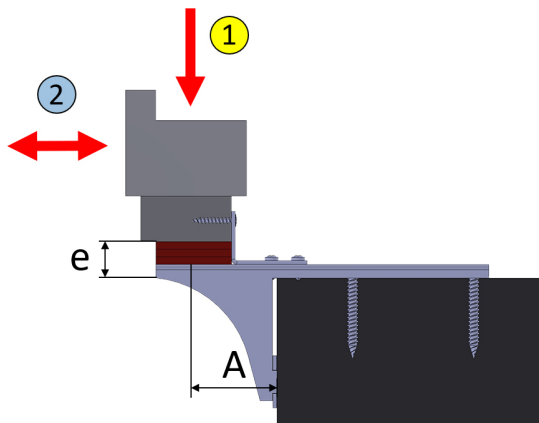
Dimensions, see table

Article-No.	Article name [mm]	L [mm]	L1 [mm]	Units
K-405270	SL-Console 220-80	220	80	25
K-40527013	SL-Console 240-100	240	100	25
K-405271	SL-Console 265-125	265	125	25
K-40527126	SL-Console 290-150	290	150	25
K-405272	SL-Console 315-175	315	175	25
K-40527240	SL-Console 340-200	340	200	25
K-405273	SL-Console 365-225	365	225	25

Scope of delivery per item: 1x Heavy Load Bracket, 1x SL-Protection Plate

**ift-Rosenheim verification number**

Tested for loads in the window layer: 17-001190-PR01 PB 03-K26-09-de-01



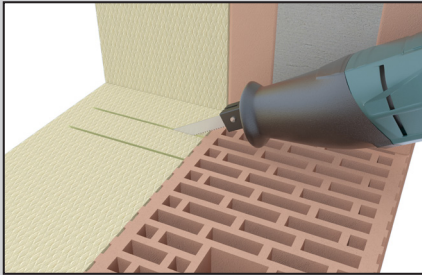
1	overhang A	maximum load
	70 mm	435 kg
	110 mm	375 kg
	145 mm	342 kg

**ift-Rosenheim verification number**

Tested for loads which are perpendicular to the window layer:  
18-000650-PR01 PB 04-K26-09-de-01

2	Article-No.	Article name [mm]	tested joint width e	maximum load
	K-405112	VBW-35x50x2,5	14 mm	139 kg

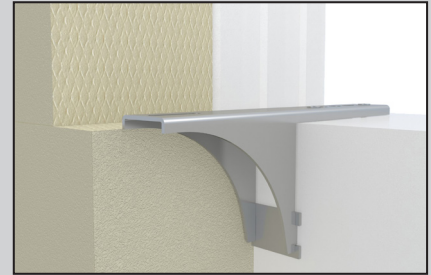
**Installation instruction**



**Step 1**  
Mark the mounting position and cut it free.

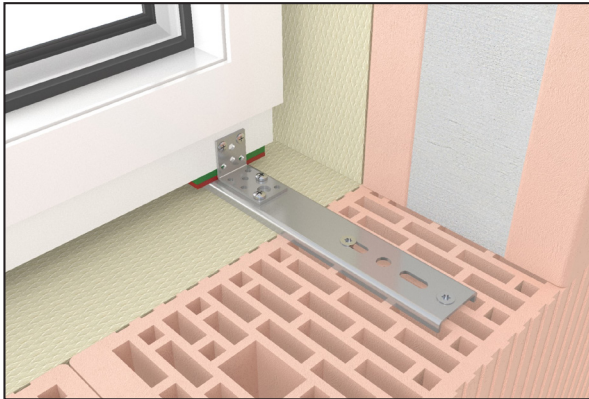


**Step 2**  
Insert the Protection Plate. It protects softer stones and sealing from damage.



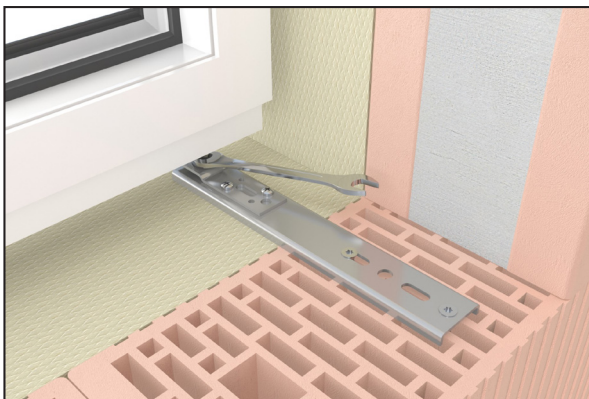
**Step 3**  
Mount the Heavy Load Bracket into the insulation. Bridges / Protection Plate have to be placed closely to the masonry.

**In combination with VBW - Connecting Angle**



*Screw connecting bracket to the console and the window*

**In combination with BAP-Adjusting Element**



*Easy to adjust with existing insulation*

**In combination with Adjusting Element**



*Easy adjustment*



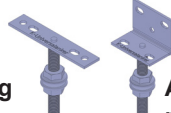
**Associated products**



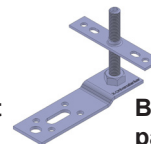
**V-Perforated Rail**  
page 36



**VBW - Connecting Angle**  
page 10



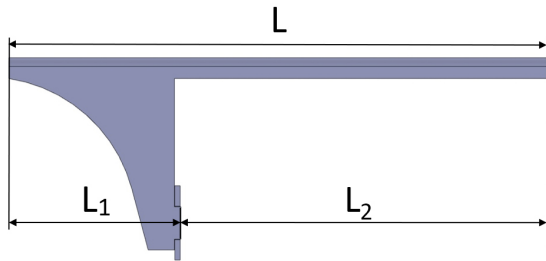
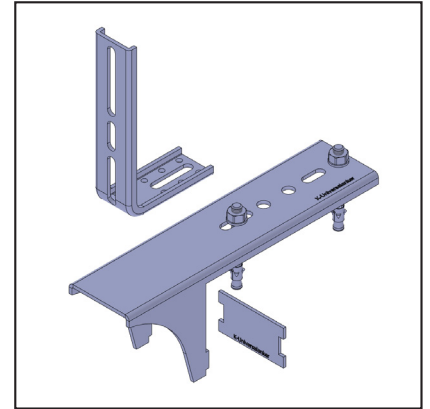
**Adjusting Element**  
page 72



**BAP-Adjusting Element**  
page 73

**1 1.23. HST-SL-Console – Lift-up Sliding Door-Heavy Load Bracket**

- for mounting underneath floor-depth elements, in particular lift-up sliding doors
- simple and fast mounting in case of an already existing insulating layer
- offers high load transference
- secure fixing of the window to the concrete floor
- maximum load tested by ift-Rosenheim



Dimensions, see table

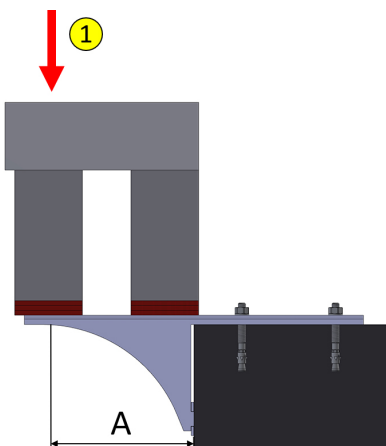
**HST-SL-Console with connecting angle and heavy-duty dowels**

Article-No.	Article name [mm]	L [mm]	L1 [mm]	L2 [mm]	Units
K-405216	HST-SL-Console 250-80 - Set	250	80	170	5
K-405217	HST-SL-Console 300-125 - Set	300	125	175	5
K-405218	HST-SL-Console 350-175 - Set	350	175	175	5
K-405219	HST-SL-Console 400-225 - Set	400	225	175	5

Scope of delivery per item: 1x HST-SL-Console, 1x HST-SL-Protection Plate, 1x Connecting Angle-65x145x3,0, 2x Heavy-Duty Dowel Ø8x71

Article-No.	Article name [mm]	L [mm]	L1 [mm]	L2 [mm]	Units
K-40521410	HST-SL-Konsole 250-80	250	80	170	5
K-40521420	HST-SL-Konsole 300-125	300	125	175	5
K-40521430	HST-SL-Konsole 350-175	350	175	175	5
K-40521440	HST-SL-Konsole 400-225	400	225	175	5

Scope of delivery per item: 1x HST-SL-Console, 1x HST-SL-Protection Plate

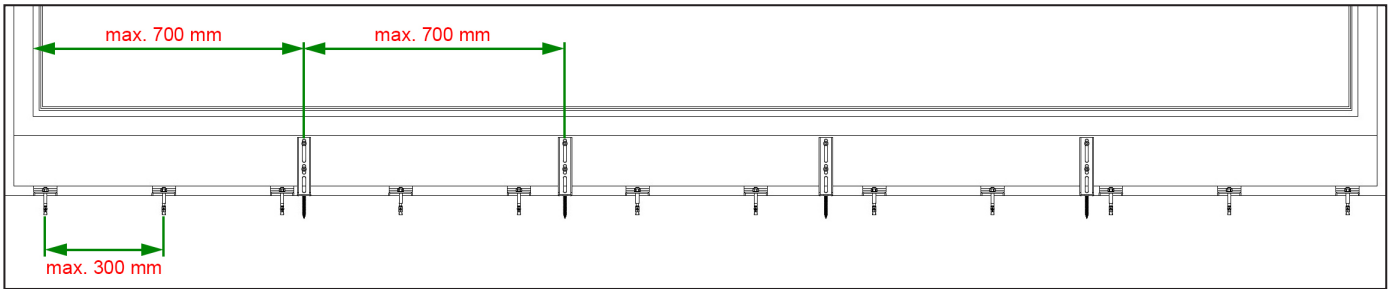


**ift-Rosenheim verification number**

Tested for loads in the window layer:

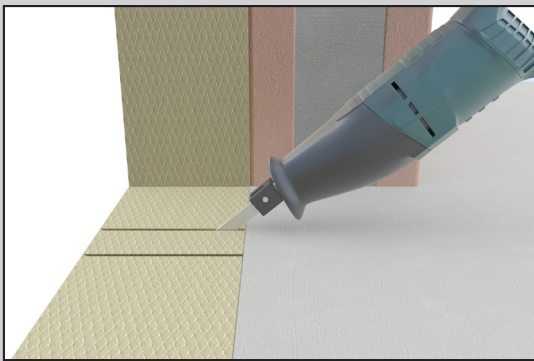
17-001190-PR01 PB 04-K26-09-de-01, 18-003796-PR04 PB-K26-09-de-01

1	overhang A	maximum load
	50 mm	622 kg
	95 mm	622 kg
	145 mm	551 kg
	195 mm	284 kg



mounting distance; tested measurements

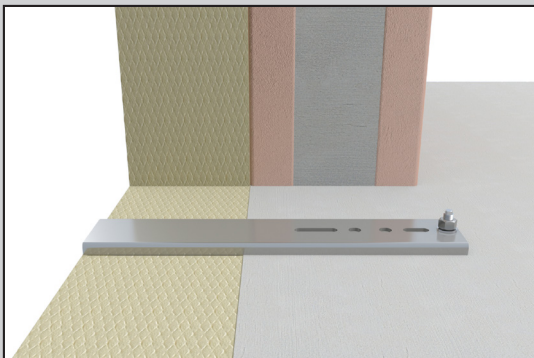
**Installation instruction**



**Step 1**  
Mark the mounting position and cut it free.



**Step 2**  
Insert the Protection Plate. It protects soft stones and sealing from damage.

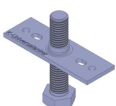


**Step 3**  
Insert bracket into insulation. The bridges with the protection plate have to be aligned with the concrete sole. Secure it with the first Heavy-Duty Dowel.

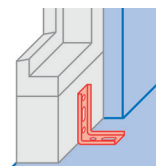


**Step 4**  
Place second Heavy-Duty Dowel. Screw connecting angle to door element and console.

**Associated products**



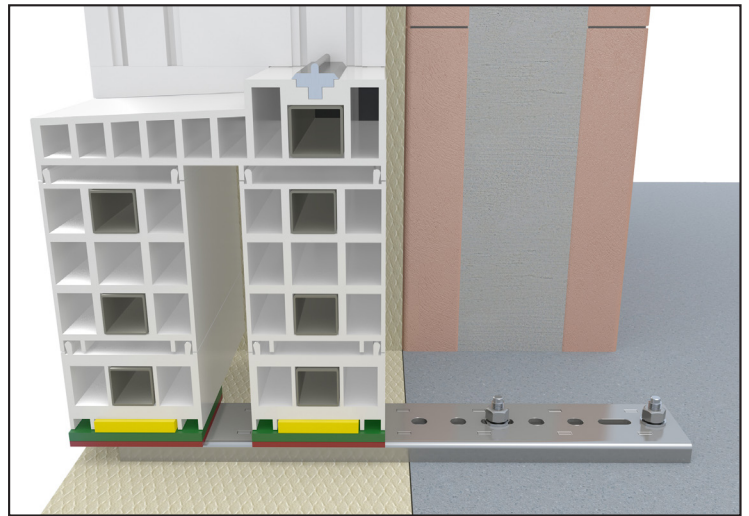
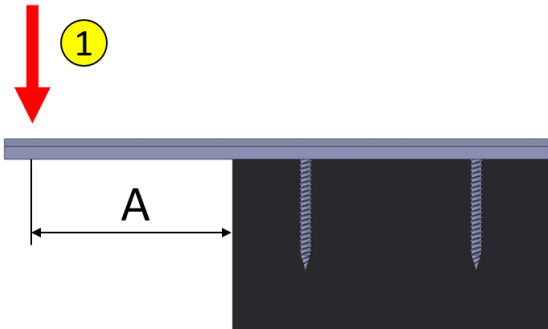
**Adjustable Blocking**  
page 75



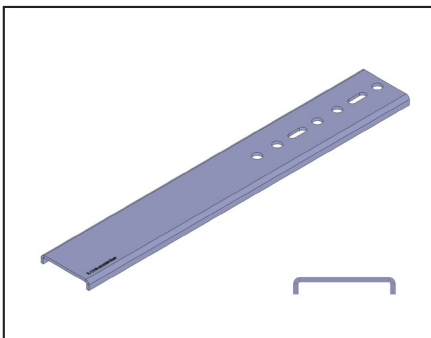
**Fastening of connection profiles**  
page 64

### 1 1.24. SL-Profile – Heavy Load Profile

- offers high load transference with a low space requirement



SL-Profile and lift-up-sliding door



SL-U-Profile 400x3,0

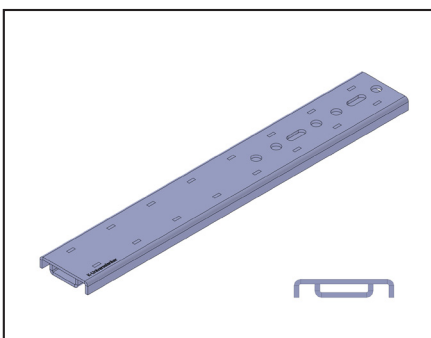
#### self-tested values

1	overhang A	maximum load
	100 mm	67 kg
	130 mm	44 kg
	160 mm	30 kg

Article-No.	Article name [mm] length x material thickness	Units
K-40525110	SL-U-Profile 250x3,0	25
K-405252	SL-U-Profile 300x3,0	25
K-405253	SL-U-Profile 350x3,0	25
K-405255	SL-U-Profile 400x3,0	25

#### ift-Rosenheim verification number

SL-Profile: Tested for loads in the window layer: 17-003399-PR01 PB-K26-09-de-01

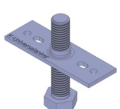


SL-Profile 400x3,0

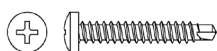
1	overhang A	maximum load
	100 mm	135 kg
	130 mm	88 kg
	160 mm	60 kg

Article-No.	Article name [mm] length x material thickness	Units
K-40526010	SL-Profile 250x3,0	25
K-405261	SL-Profile 300x3,0	25
K-405262	SL-Profile 350x3,0	25
K-405263	SL-Profile 400x3,0	25

#### Associated products



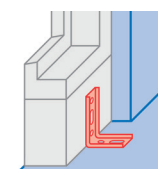
Adjustable Blocking  
page 75



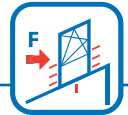
Drilling Screws  
page 137



Heavy-Duty Dowel  
page 136

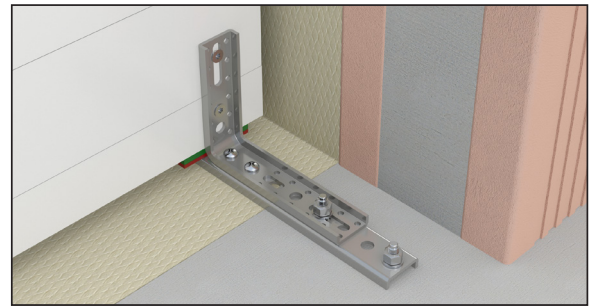


Fastening of  
connection profiles  
page 64

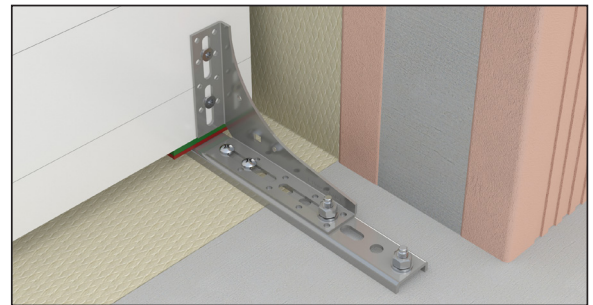


## 1.25. BAP-SLK - Heavy Load Bracket

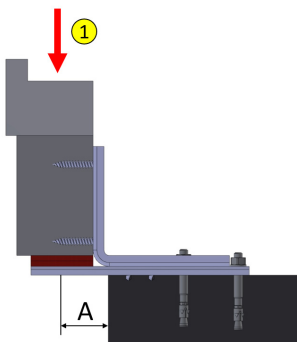
- for secure mounting underneath floor-depth elements
- right-angled bracing of the balcony connection profile
- offers high load transference
- simple and fast mounting in case of an already existing insulating layer
- maximum load tested by ift-Rosenheim
- suitable for fall-proof window mounting
- tested according to ETB guidelines (ift-Rosenheim):  
verification number: 18-003796-PR05



BAP-SLK-250 U110x150 - angle type U



BAP-SLK-300 S110x150 - angle type S



**ift-Rosenheim verification number**

Tested for loads in the window layer: 17-001190-PR01 PB 05-K26-09-de-01

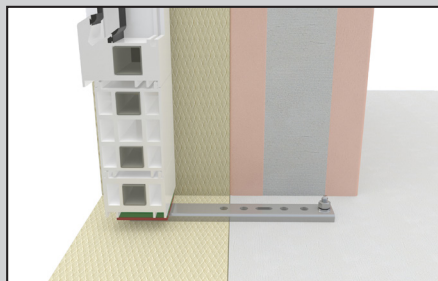
1	Article-No.	Article name [mm] length U-Profile angle type angular dimensions	overhang A	maximum load	Units
	K-405210	BAP-SLK-200 U110x125	70 mm	123 kg	25
	K-405210-01	BAP-SLK-200 U110x150	70 mm	123 kg	25
	K-405211	BAP-SLK-250 U110x150	90 mm	144 kg	25
	K-405212	BAP-SLK-300 S110x150	110 mm	116 kg	25
	K-405213	BAP-SLK-350 S120x200	110 mm	116 kg	25
Scope of delivery per item: 1x U-Profile, 1x Connecting Angle, 2x Drilling Screw Ø6,3x16, 2x Heavy-Duty Dowel Ø8x71					

### Installation instruction



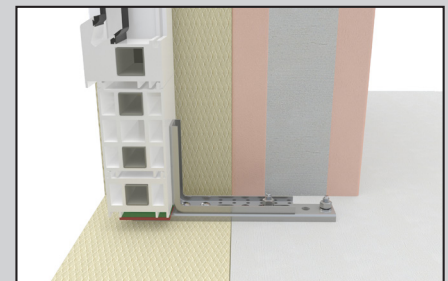
**Step 1**

The U-Profile is fixed to the concrete sole using a Heavy-Duty Dowel.



**Step 2**

Place the element onto the U-Profile and align it using mounting blocks.



**Step 3**

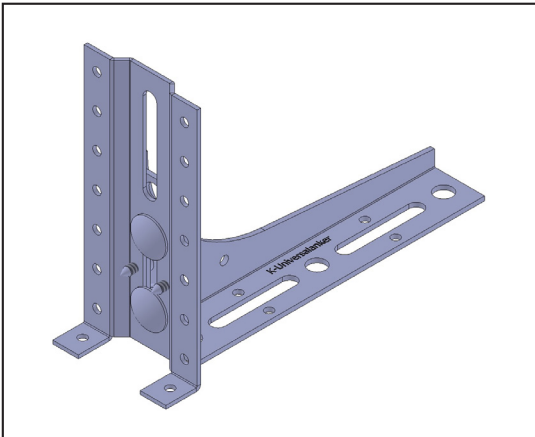
The angle is screwed to the U-Profile using two Drilling Screws. The screws have to be positioned as closely as possible to the balcony connection profile in order that the maximum load can be carried. Next, the angle and the U-Profile are fixed to the concrete sole with the Heavy-Duty Dowel.



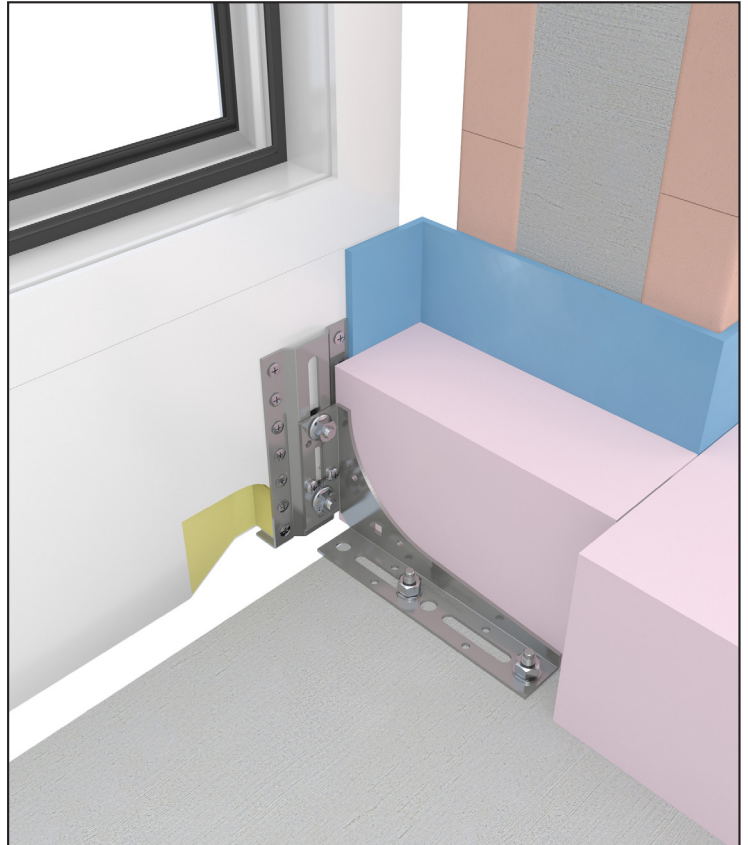
The sealing film can be glued before the angle is screwed on.

1 1.26. BAP-SLW - BAP-Heavy Load Angle

- for the mounting of floor-depth elements
- offers high load transference
- secure fixing of the window to the concrete floor
- secure wedging even in case of unreinforced connection profiles



BAP-SLW-140-95x180x2,5



BAP-SLW-140-95x180x2,5

Article-No.	Article name [mm] connection plate - length 1 x length 2 x material thickness	Units
K-405193	BAP-SLW-60-60x180x2,5	5
K-405194	BAP-SLW-100-95x180x2,5	5
K-405195	BAP-SLW-140-95x180x2,5	5
K-405196	BAP-SLW-180-150x200x2,5	5
K-405197	BAP-SLW-220-150x200x2,5	5

Scope of delivery per item: 1x Heavy Load Angle, 1x BAP-Connection Plate, 2x Drilling Screw Ø4,8x13, depending on the design 1-2x Carriage Bolt M8x16 & 1-2x Flange Nut M8

**Installation instruction**

The connection plate has an installation edge and multiple drilled holes for a secure mounting even to unreinforced connection profiles.

The Heavy Load Angle is screwed to the connection plate with the Carriage Bolts and fixed with two Drilling Screws. Fix the angle to the concrete floor with two Heavy-Duty Dowels.

**Associated products**



**Heavy-Duty Dowel**  
page 136

## 1.27. Widening Stabiliser

- bracing for widening profiles at the top
- fastening is possible as blocking point or floating bearing
- no steel reinforcement needed



Widening Stabiliser 300-350x3,0

Article-No.	Article name [mm] length - U-Profile	Units
K-40522035	Widening Stabiliser 150-350x3,0	10
K-40522040	Widening Stabiliser 200-350x3,0	10
K-40522045	Widening Stabiliser 250-350x3,0	10
K-40522050	Widening Stabiliser 300-350x3,0	10

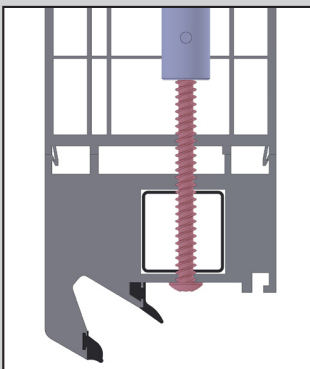
Scope of delivery per item: 1x static tube, 1x U-Profile, 2x counter-sunk screw, 1x hexagonal screw with flange

### Installation instruction

#### Preparation

Pre-drill the widening profile with 18.0 mm holes.

#### Fixing as a fixed bearing



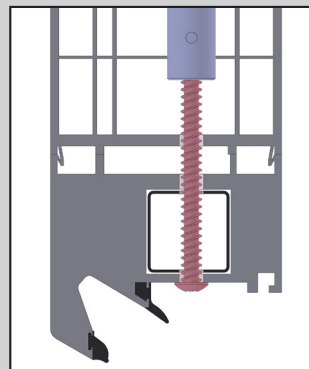
##### Step 1

Pre-drill the window frame with 6.0 mm holes.

##### Step 2

Screw the window mounting screw through the window frame into the Widening Stabiliser.

#### Fixing as floating bearing



##### Step 1

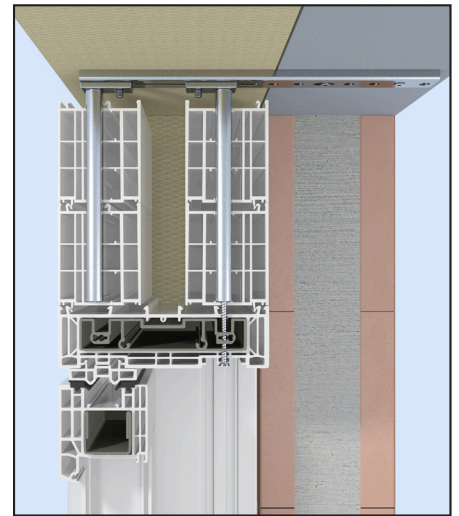
Pre-drill the window frame with 8.0 mm holes.

##### Step 2

Screw the window mounting screw through the window frame into the Widening Stabiliser.

1 1.28. HST-Widening Stabiliser

- bracing for widening profiles at the top
- fastening is possible as blocking point or floating bearing
- no steel reinforcement needed



HST-Widening Stabiliser 300-350x3,0

Article-No.	Article name [mm] length - U-Profile	Units
K-40522134	HST-Widening Stabiliser 150-350x3,0	10
K-40522139	HST-Widening Stabiliser 200-350x3,0	10
K-40522144	HST-Widening Stabiliser 250-350x3,0	10
K-40522149	HST-Widening Stabiliser 300-350x3,0	10

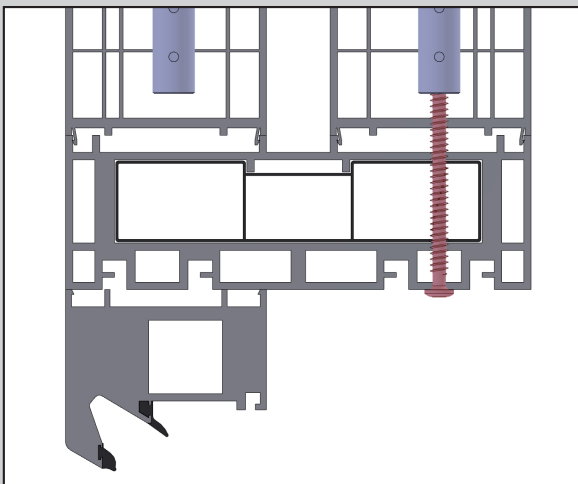
Scope of delivery per item: 2x static tube, 1x U-Profile, 4x washer, 4x hexagonal screw

Installation instruction

**Preparation**

Pre-drill the widening profile with 18.0 mm holes.

**Fixing as a fixed bearing**



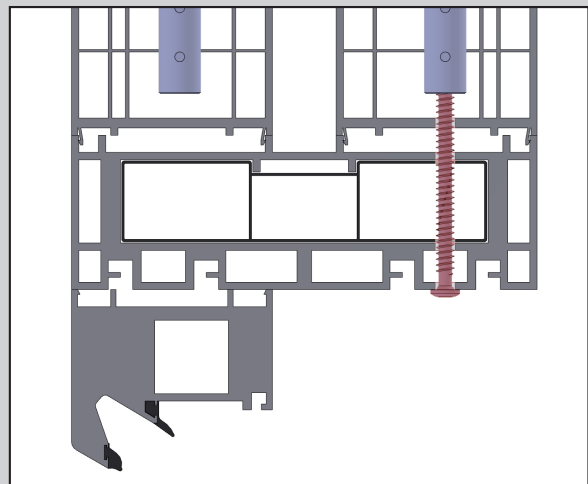
**Step 1**

Pre-drill the lift-up-sliding door frame with 6.0 mm holes.

**Step 2**

Screw the window mounting screw through the lift-up sliding door frame into the Widening Stabiliser.

**Fixing as floating bearing**



**Step 1**

Pre-drill the lift-up-sliding door frame with 8.0 mm holes.

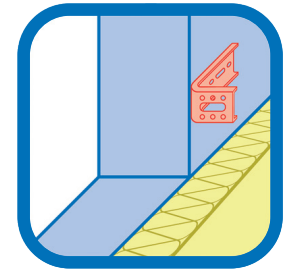
**Step 2**

Screw the window mounting screw through the lift-up sliding door frame into the Widening Stabiliser.





# Anchor Mounting in front of the Facade



Mounting takes place in front of the facade. The element should partially or entirely be inside the insulating layer.

2.1.	FMW-U-Profile.....	52
2.2.	FMW-U-Profile with Adjusting Element.....	54
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2.5.	SLW - Heavy Load Angle.....	58
2.6.	FMW with Floating Bearing.....	60
2.7.	FMW-Floating Bearing with Adjusting Element.....	61
2.8.	ISO-Plate.....	62
2.9.	Altbau EL-FMW - Old Building EL-Window Mounting Angle.....	63

## Legend of certifications



Certified for resistance class RC2



Certified for fall protection



### 2.1. FMW-U-Profile

2

- simple and fast mounting of windows inside the insulating layer
- suitable for all window systems (aluminum, wood, plastic)
- short shank for mounting to the window frame, long shank for mounting to the masonry
- two-level tilt for more space for sealing
- window mounting in accordance with resistance class RC2 from a material thickness of 2.5 mm
- suitable for fall-proof window mounting
- maximum load tested by ift-Rosenheim



FMW-65x145x2,5



FMW-95x150x3,0 two-level tilt

Article-No.	Article name [mm] length 1 x length 2 x material thickness	Units
K-405121	FMW-50x140x1,5	50
K-405120	FMW-65x125x1,5	50
K-405127	FMW-65x145x1,5	50
K-405122	FMW-65x145x2,5	50
K-405122-3	FMW-65x145x3,0	50
K-405124	FMW-65x170x2,5	50
K-405124-3	FMW-65x170x3,0	50
K-405137-0	FMW-75x135x2,5	50
K-405123	FMW-95x140x3,0	50
K-405125	FMW-150x160x3,0	50
K-405126	FMW-95x150x3,0 two-level tilt	50

### FMW-U-Profile set for window mounting according to ETB-guidelines

Article-No.	Article name [mm] length 1 x length 2 x material thickness - screw	System	Units
K-405122-8	FMW-65x145x3,0-BS32 - ETB (Set with Drilling Screws L=32 mm & Heavy-Duty Dowel)	Aluminium, Plastic	50
K-405122-85	FMW-65x145x3,0-BS50 - ETB (Set with Drilling Screws L=50 mm & Heavy-Duty Dowel)	Aluminium, Plastic	50
K-405138-85	FMW-80x180x3,0 FMS-52 - ETB (Set with Window Mounting Screws L=52 mm & Heavy-Duty Dowel)	Wood	50

If you are interested in other set contents, contact us.

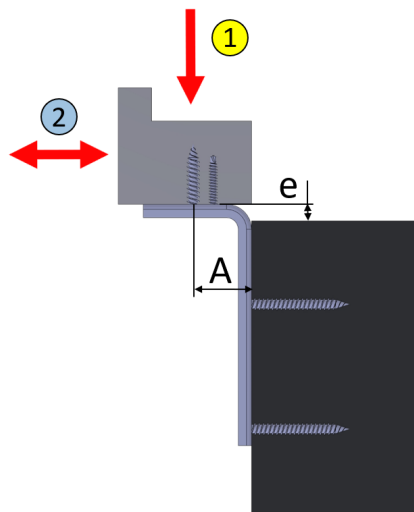
**ift-Rosenheim verification number**

Tested for loads in the window layer:

11-003442-PR06 PB-K26-09-de-01, 12-002151-PR04, 14-002150-PR02, 17-001190-PR01 PB 01-K26-09-de-01

1	Material thickness	maximum load / overhang A							
		25 mm	35 mm	40 mm	55 mm	57 mm	60 mm	87 mm	143 mm
	1,5 mm	212 kg	110 kg*	45 kg	40 kg*	38 kg	-	-	-
	2,5 mm	min. 212 kg	170 kg	140 kg*	68 kg	60 kg*	50 kg*	34 kg	-
	3,0 mm	min. 347 kg	347 kg	270 kg*	147 kg	143 kg*	139 kg	66 kg	16 kg

\*approximate value based on test reports



**ift-Rosenheim verification number**

Tested for loads which are perpendicular to the window layer: 18-000650-PR01 PB-K26-09-de-01

2	Material thickness	maximum load
	1,5 mm	59 kg
	2,5 mm	91 kg
	3,0 mm	182 kg

**Installation instruction**

**Step 1**

The window mounting angle (FMW) is first screwed to the window frame through the slotted hole using a Ø7.5x42 mm Window Mounting Screw.

**Step 3**

The window mounting angle is fixed to the masonry.

**Step 2**

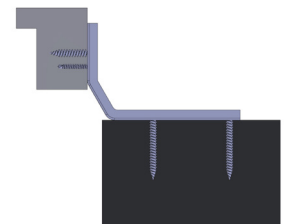
The frame is placed onto the bottom mount or the Window Mounting Clamps and is aligned in height.

**Step 4**

The fine adjustment in the depth is done via the slotted hole. To secure the configuration, the screw is tightened to the window and fixed through the round holes with additional screws.



For construction sites where the window frame is mounted completely within in the insulation layer, we recommend the angle with the „two-level tilt“ because it offers more space for sealing.



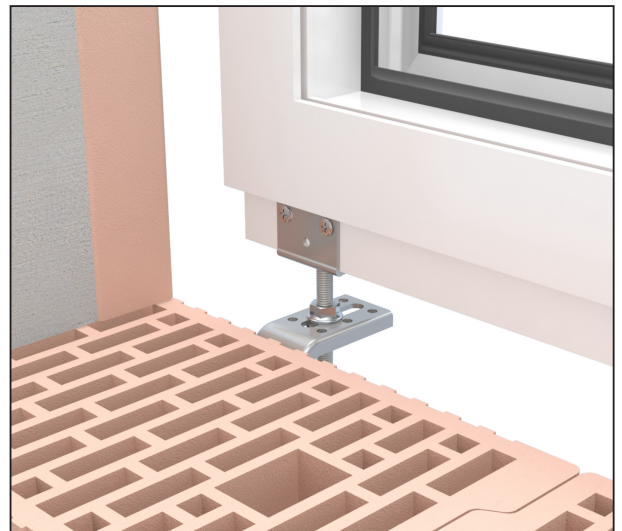
2.2. FMW-U-Profile with Adjusting Element

2

- simple and fast mounting of windows inside the insulating layer
- with angle connection, suitable for mounting from below
- with flat connection, suitable for mounting from below and lateral
- suitable for all window systems (aluminum, wood, plastic)
- the angles are adjustable in three dimensions in order to be able to compensate structural tolerances
- easily adjustable wedging
- maximum load tested by ift-Rosenheim



FMW-65x145x2,5-F60 - Adjusting Element with flat connection



FMW-65x145x2,5-W60 - Adjusting Element with angle connection

Article-No.	Article name [mm] length 1 x length 2 x material thickness - adjusting element	Connection	Units
K-405128	FMW-65x145x2,5-F60	Flat connection	50
K-405129	FMW-95x140x3,0-F60	Flat connection	50
K-405135	FMW-65x145x2,5-W60	Angle connection	50
K-405136	FMW-95x140x3,0-W60	Angle connection	50

Scope of delivery per item: 1x FMW-U-Profile, 1x Adjusting Element

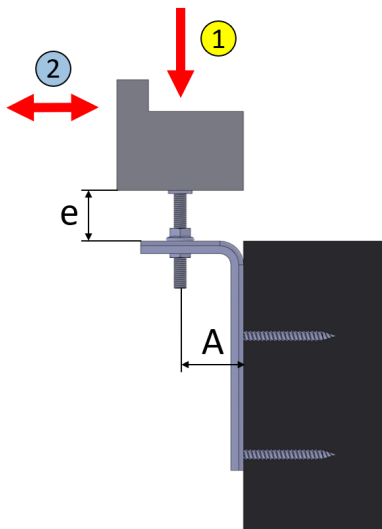
**ift-Rosenheim verification number**

Tested for loads in the window layer:

11-003442-PR06 PB-K26-09-de-01, 12-002151-PR04, 14-002150-PR02, 17-001190-PR01 PB 01-K26-09-de-01

1	Material thickness	maximum load / overhang A							
		25 mm	35 mm	40 mm	55 mm	57 mm	60 mm	87 mm	143 mm
	2,5 mm	min. 212 kg	170 kg	140 kg*	68 kg	60 kg*	50 kg*	34 kg	-
	3,0 mm	min. 347 kg	347 kg	270 kg*	147 kg	143 kg*	139 kg	66 kg	16 kg

\*approximate value based on test reports



**ift-Rosenheim verification number**

Tested for loads which are perpendicular to the window layer:

12-002151-PR07\_PB-E03-09-de-02, 21-001960-PR02 PB 04-K26-09-de-01

2	tested joint width e	maximum load
		34 mm
	52 mm	43 kg

**Installation instruction**

**Window mounting below**

**Step 1**

The angles are fixed to the masonry.

**Step 2**

The window is positioned on the Adjusting Elements, laterally adjusted and the flat or angle connection is screwed to the window frame / window sill connection profile.

**Step 3**

The window is readjusted and fixed using the screw connection in the slotted hole.

**Lateral window mounting**

**Step 1**

The Adjusting Element is fixed to the window frame.

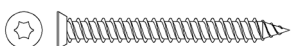
**Step 2**

The first nut is screwed all the way in (toward the window). The angle is positioned with the slotted hole at the Adjusting Element and secured with the second nut.

**Step 3**

The angle is fixed to the masonry with at least two dowels. The lateral and depth adjustment are realised using the screw connection in the slotted hole.

**Associated products**



**Window Mounting Screws**  
page 134



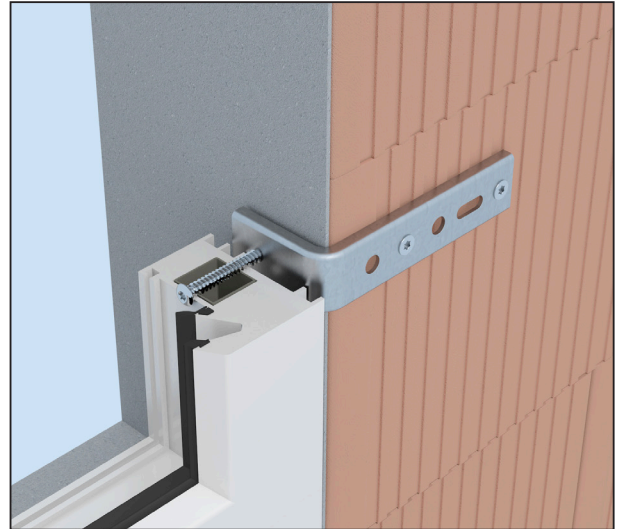
**Dowels**  
page 136



**Drills**  
page 144

2.3. FMW-EL

- 2
- suitable for all window systems (aluminium, wood and plastic)
  - the direct screwing through the window into the anchor is a proved wedging
  - simple handling during modification works or when replacing the window
  - the FMW-EL easily secures the edge distance



FMW-EL-65x145x2,5

Article-No.	Article name [mm] length 1 x length 2 x material thickness	Units
K-405227	FMW-EL-65x145x1,5	50
K-405222	FMW-EL-65x145x2,5	50
K-405223	FMW-EL-95x140x3,0	50

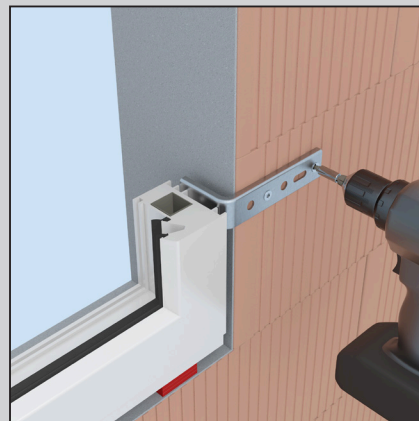


*In the case of solid sand-lime bricks and concrete masonry, fastening can also be carried out in accordance with the ETB guideline.*

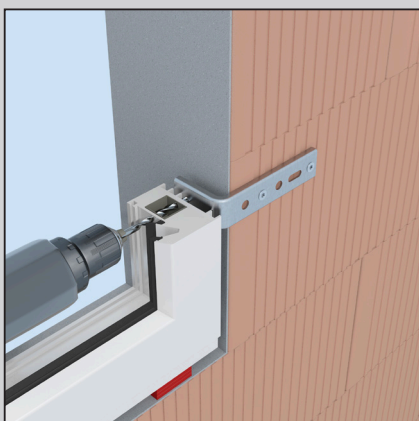
Installation instruction



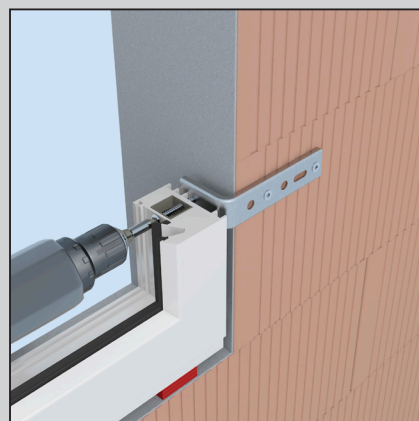
**Step 1**  
Place the window frame into the opening, align it and fix it by using, for example, wedges and blocks.



**Step 2**  
Insert the FMW-EL into the window joint, press it to the reveal and facade and fix it.



**Step 3**  
Drill through the frame into the FMW-EL. Drill at least 30mm into the masonry.

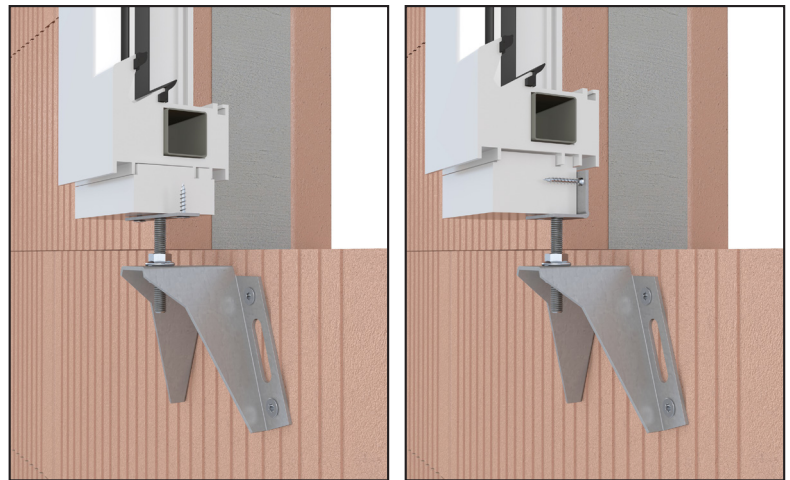


**Step 4**  
Screw through the window frame into the angle using a Ø7.5 window mounting screw. The screw must be screwed at least 20 mm through the angle.

## 2.4. WS-Mounting Bracket

2

- simple and fast mounting of windows inside the insulating layer
- suitable for all window systems (aluminum, wood, plastic)
- easily adjustable wedging
- with angle connection, suitable for mounting from below
- with flat connection, suitable for mounting from below and lateral
- the mounting bracket is adjustable in three dimensions in order to be able to compensate structural tolerances
- maximum load tested by ift-Rosenheim

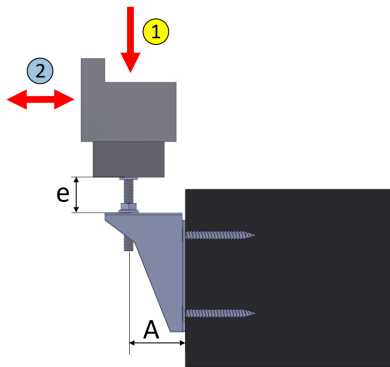


WS-Mounting Bracket with flat and angle connection

### ift-Rosenheim verification number

Tested for loads in the window layer: 11-003442-PR06 PB-K26-09-de-01

1	Article-No.	Article name [mm] length 1 x length 2 - adjustable height	overhang A	maximum load	Units
	K-405075	WS-65x110-F60		55 mm	237 kg
K-405076	WS-65x110-W60		55 mm	237 kg	50
K-405077	WS-110x110-F60		105 mm	99 kg	50
K-405078	WS-110x110-W60		105 mm	99 kg	50
Scope of delivery per item: 1x WS-Mounting Bracket, 1x Adjusting Element					



### ift-Rosenheim verification number

Tested for loads which are perpendicular to the window layer:

12-002151-PR07\_PB-E03-09-de-02, 21-001960-PR02 PB 04-K26-09-de-01

2	tested joint width e	maximum load
	36 mm	68 kg
54 mm	43 kg	

### Installation instruction

#### Window mounting below

##### Step 1

The WS-Mounting Bracket is fixed to the masonry using at least four dowels.

##### Step 2

The window is positioned onto the adjusting elements, laterally adjusted and the flat or angle connection is screwed to the window frame / window sill connection profile.

##### Step 3

The window is readjusted and fixed using the screw connection in the slotted hole.

#### Lateral window mounting

##### Step 1

The Adjusting Element is fixed to the window frame.

##### Step 2

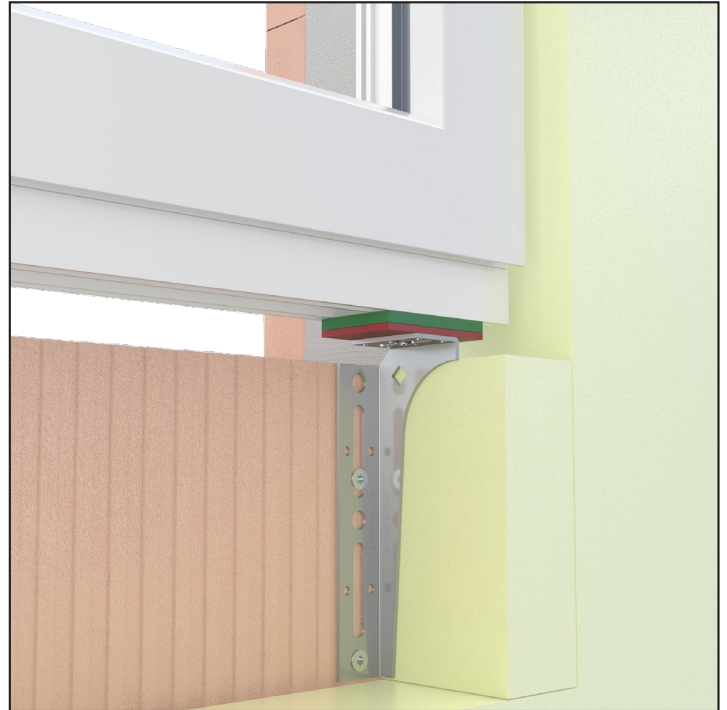
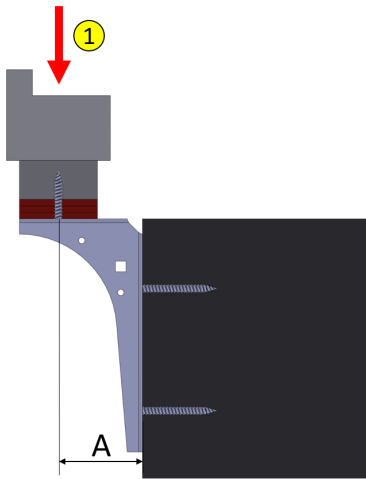
The first nut is screwed all the way in (towards window), the WS-Mounting Bracket is positioned with the slotted hole at the Adjusting Element and secured with the second nut.

##### Step 3

The WS-Window Mounting Bracket is fixed to the masonry with at least four dowels. The lateral and depth adjustment are realised using the screw connection in the slotted hole.

2.5. SLW - Heavy Load Angle

- 2
- simple and fast mounting of windows in the insulation layer
  - high load transfer
  - suitable for all window systems (aluminium, wood, plastic)
  - insulation can be easily installed afterwards



SLW-60x180x2,5

ift-Rosenheim verification number

Tested for loads in the window layer: 17-001190-PR01 PB 02-K26-09-de-01

Article-No.	Article name [mm] length 1 x length 2 x material thickness	overhang A	maximum load	Units
K-405200	SLW-60x180x2,5	35 mm	213 kg	10
K-405201	SLW-95x180x2,5	70 mm	213 kg	10
K-405201-2	SLW-110x150x2,5	70 mm	213 kg	10
K-40520128	SLW-110x250x2,5	70 mm	213 kg	10
K-405201-1	SLW-120x200x2,5	110 mm	172 kg	10
K-405202	SLW-150x200x2,5	110 mm	172 kg	10
K-40520210	SLW-150x250x2,5	110 mm	172 kg	10
K-405204	SLW-180x200x2,5	150 mm	301 kg	10
K-405202-1	SLW-200x250x2,5	150 mm 200 mm	301 kg 157 kg	10
K-405203	SLW-200x300x2,5	150 mm 200 mm	301 kg 157 kg	10
K-40520501	SLW-200x350x2,5	follows	follows	10
K-40520522	SLW-250x400x2,5	follows	follows	10
Scope of delivery per item: 5x left, 5x right				

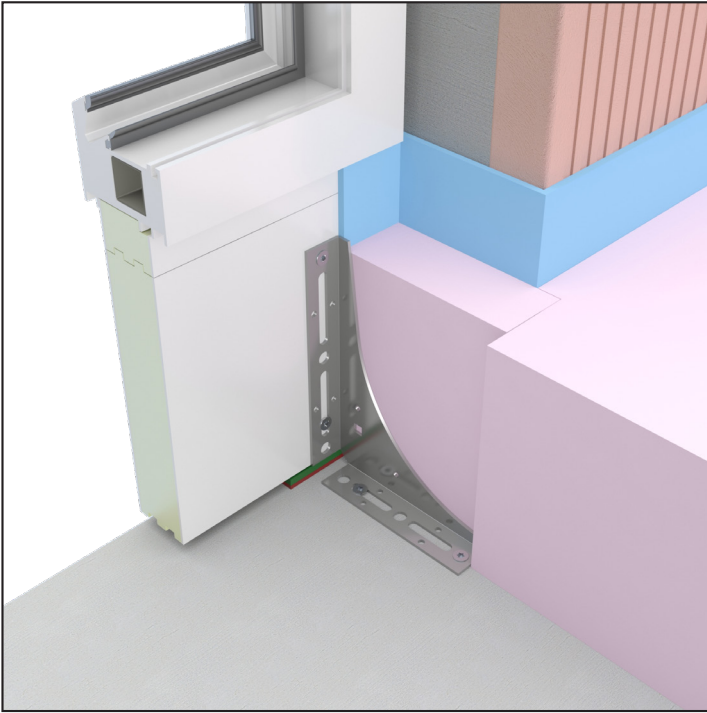
Installation Instruction - Anchor Mounting in front of the Facade / Pre-Wall Installation

**Step 1**

The Heavy Load Angles are fixed to the masonry. Then the window is placed onto the Heavy Load Angles and is aligned with mounting blocks.

**Step 2**

The Heavy Load Angle is fixed to the window from below.



SLW-mounting at the connection profile



For information on the topic of "Fastening of connection profiles", see page 64.

### Associated products



**Window Mounting Screws**  
page 134



**Dowels**  
page 136



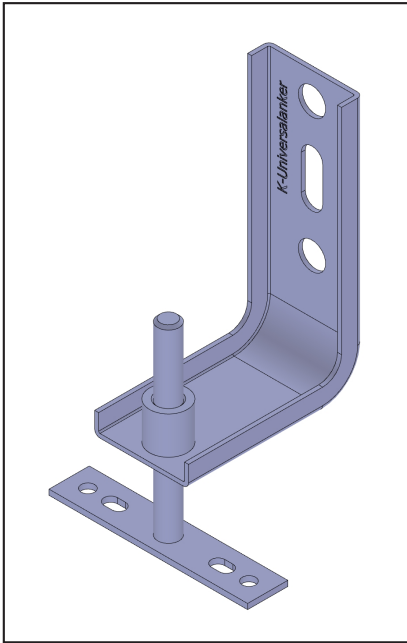
**Drills**  
page 144



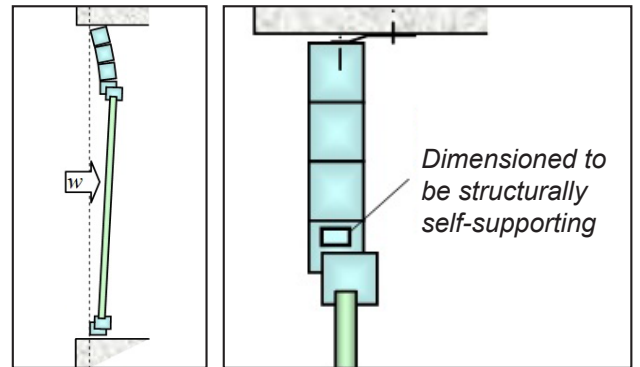
**Adjusting Element**  
page 72

2.6. FMW with Floating Bearing

- for the window mounting above with widening profiles
- allows for temperature-affected extension of the window frame



FMW-LL 65x95x1,5



[1]

Article-No.	Article name [mm] length 1 x length 2 x material thickness	Units
K-405032	FMW-LL 65x95x1,5	25
Scope of delivery per item: 1x FMW-U-Profile with sleeve, 1x connection element		


Installation instruction

**Step 1**

Fix the connection element to the window frame.

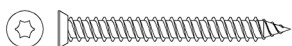
**Step 2**

Fix the angle to the masonry.

 For the upward extension, we recommend a distance of 5-25 mm between the window mounting angle and the window frame.

[1] "Guideline for installation of windows and external pedestrian doors", March 2020, by RAL Quality Assurance Association Windows, Facades and Doors e.V., page 149

Associated products



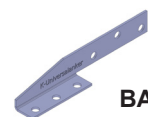
**Window Mounting Screws**  
page 134



**Dowels**  
page 136



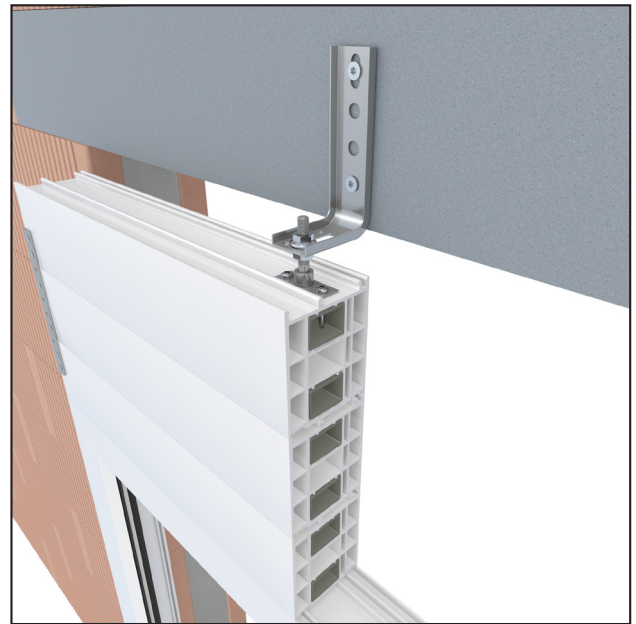
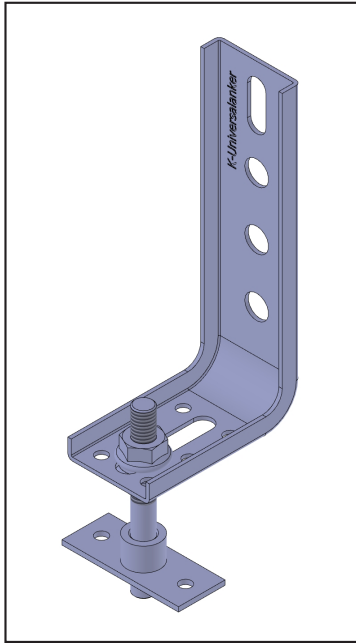
**Drills**  
page 144



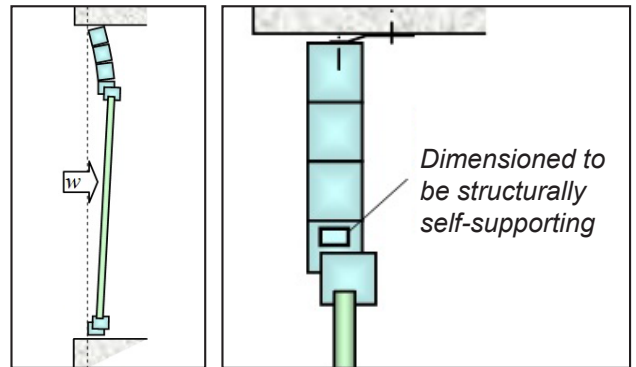
**BAP-Angle**  
page 109

## 2.7. FMW-Floating Bearing with Adjusting Element

- for the window mounting above with extension
- floating bearing enables a temperature-affected extension of the window frame upwards
- adjustable in depth



FMW-LL 65x125x1,5-M8x70



[1]

Article-No.	Article name [mm] length 1 x length 2 x material thickness - adjusting element	Units
K-405037	FMW-LL 65x125x1,5-M8x70	25
Scope of delivery per item: 1x FMW-U-Profile, 1x threaded bolt, 2x Flange Nut M8, 1x connection element		

### Installation instruction

#### Preparation

Drill out the window extension with 10.0 mm holes from above. Fix the connection element in a way that the pin can dip into the hole.

#### Step 1

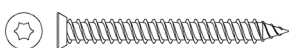
Insert the angle with the pin into the connection element.

#### Step 2

Fix the angle with at least two fixing elements to the masonry. The adjustment in the depth takes place via the screw connections in the slotted hole.

[1] "Guideline for installation of windows and external pedestrian doors", March 2020, by RAL Quality Assurance Association Windows, Facades and Doors e.V., page 149

### Associated products



**Window Mounting Screws**  
page 134



**Dowels**  
page 136



**Drills**  
page 144



**BAP-Angle**  
page 109

2.8. ISO-Plate

- 2
- offers thermal separation from the masonry
  - strips of adhesive for simple connection to the window mounting angle

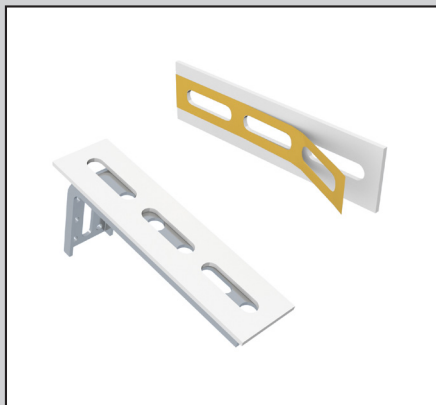


ISO-Plate-160 with FMW-75x135x2,5

Article-No.	Article name [mm] length	Units
K-000050	ISO-Plate-135	50
K-000052	ISO-Plate-160	50
K-000054	ISO-Plate-180	50
K-000056	ISO-Plate-210	50
K-000058	ISO-Plate-260	50

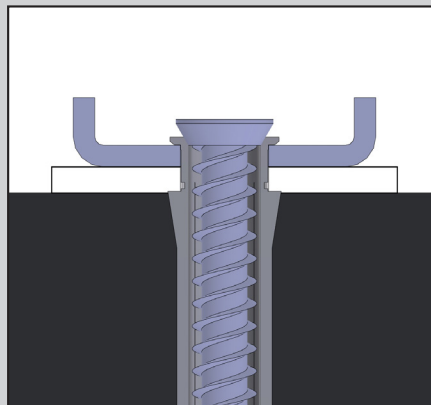
Width: 40 mm, material thickness: 3.0 mm

Installation instruction



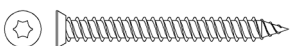
**Step 1**

Remove the yellow foil and glue the ISO-Plate to the angle.



The combination of ISO-Plate and plastic dowel provides a thermal separation.

Associated products



**Window Mounting Screws**  
page 134

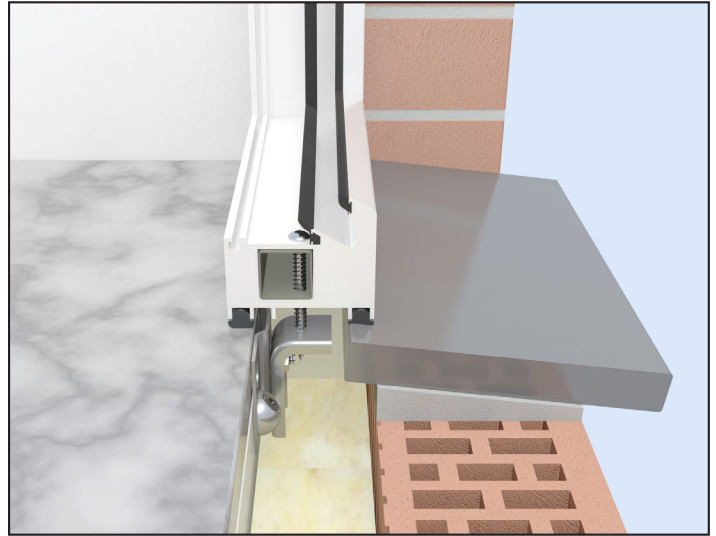


**Dowels**  
page 136

## 2.9. Altbau EL-FMW - Old Building EL-Window Mounting Angle

2

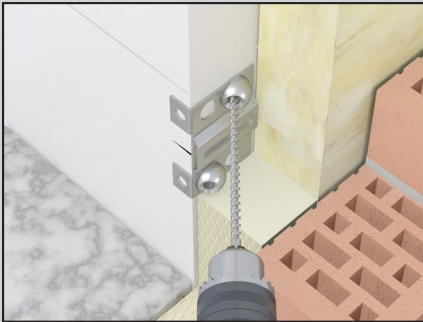
- developed for old buildings
- the reveal remains undamaged
- usage in new construction: reveal = exposed concrete
- direct screw connection through the window into the angle is immediately a wedging



Window mounting below

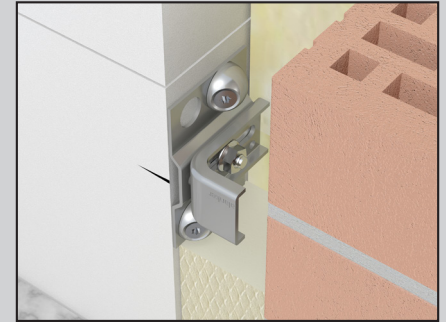
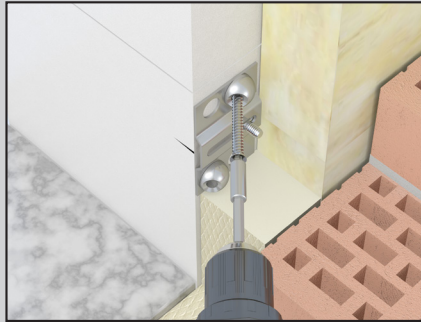
Article-No.	Article name [mm] length 1 x length 2 x material thickness	Units
K-405230	Old Building EL-FMW-65x95x2,5	25
Scope of delivery per item: 1x mounting plate, 1x EL-FMW-65x95x2,5, 1x Carriage Bolt M8x16, 1x Flange Nut M8		

### Installation instruction



#### Step 1

Mark the mounting position. Drill into the masonry using a  $\text{\O}6$  mm drill. The end stops can be removed if needed. Fix the mounting plate to the masonry.



#### Step 2

The angle is fixed to the mounting plate. Shorten the angle first if necessary.



#### Step 3

The window frame is placed into the opening, aligned and fixed.

#### Step 4

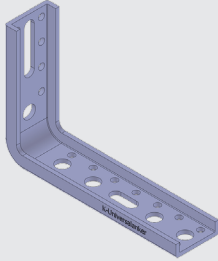
A  $\text{\O}6.0$  mm hole is drilled into the angle through the window frame. After this, a  $\text{\O}7.5$  mm Window Mounting Screw is also screwed through the frame into the angle.

to the video

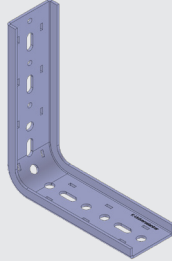


## Fastening of connection profiles

1. VBW



2. SL-U-W



3. SLW

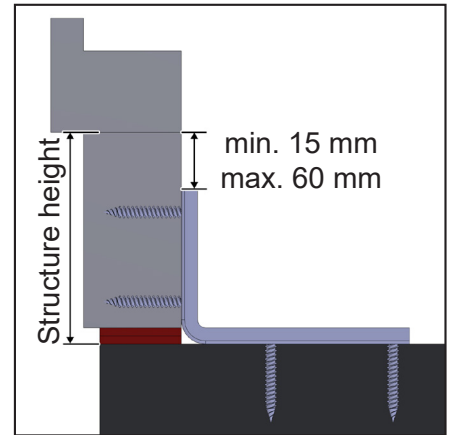
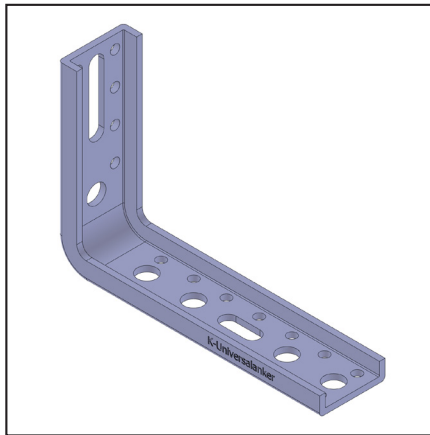
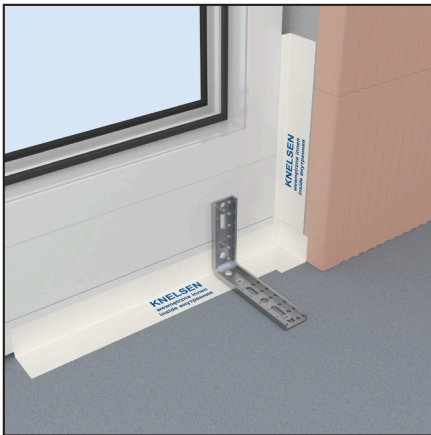


increasing load transfer



The angles can be attached to the connection profile with the short or the long leg, depending on the height of the structure.

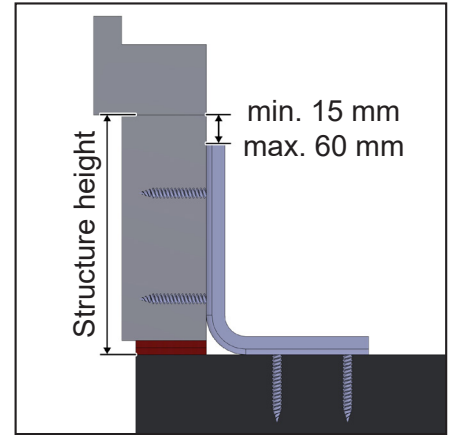
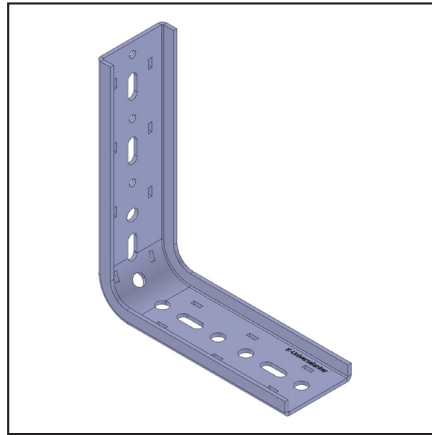
### 3.1. VBW - Connecting Angle



Article-No.	Article name [mm]	Structure height [mm]	Units
K-405114	VBW-65x95x2,5-U-BS13	70 - 125	50
K-405114	VBW-65x95x2,5-U-BS13	110 - 155	50
K-405118-2	VBW-110x150x3,0-U-BS13	125 - 170	50
K-405118-2	VBW-110x150x3,0-U-BS13	165 - 210	50

### 3.2. SL-U-W - Heavy Load U-Profile Angle

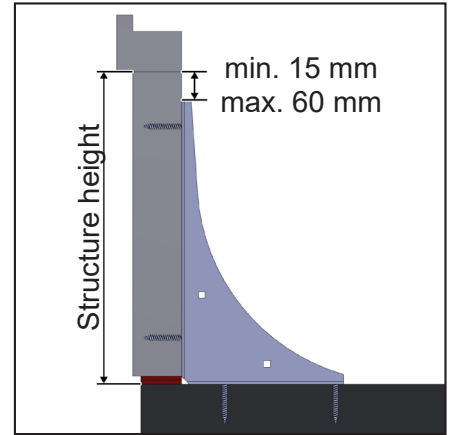
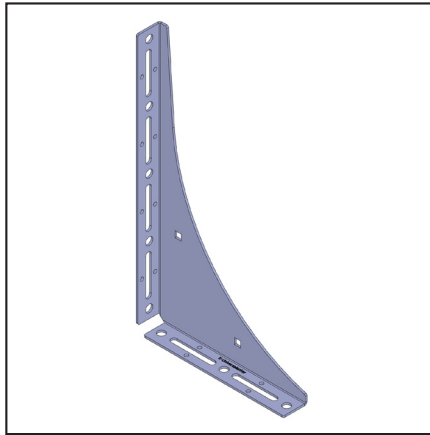
3



Article-No.	Article name [mm]	Structure height [mm]	Units
K-40526530	SL-U-W-115x155	130 - 175	25
K-40526530	SL-U-W-115x155	170 - 210	25
K-40526550	SL-U-W-170x200	185 - 230	25
K-40526550	SL-U-W-170x200	215 - 260	25

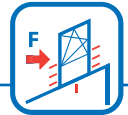
3.3. SLW - Heavy Load Angle

3



Article-No.	Article name [mm]	Structure height [mm]	Units
K-405202	SLW-150x200x2,5	165 - 210	10
K-40520210	SLW-150x250x2,5	165 - 210	10
K-405202	SLW-150x200x2,5	215 - 260	10
K-405203	SLW-200x300x2,5	215 - 260	10
K-40520501	SLW-200x350x2,5	215 - 260	10
K-40520210	SLW-150x250x2,5	265 - 310	10
K-40520522	SLW-250x400x2,5	265 - 310	10
K-405203	SLW-200x300x2,5	315 - 360	10
K-40520501	SLW-200x350x2,5	365 - 410	10
K-40520522	SLW-250x400x2,5	415 - 460	10

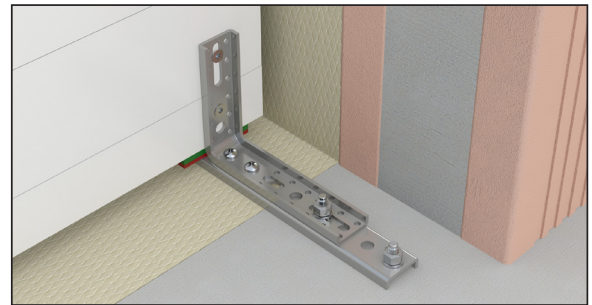
With the SLW, position changes of up to 5.0 mm are possible.



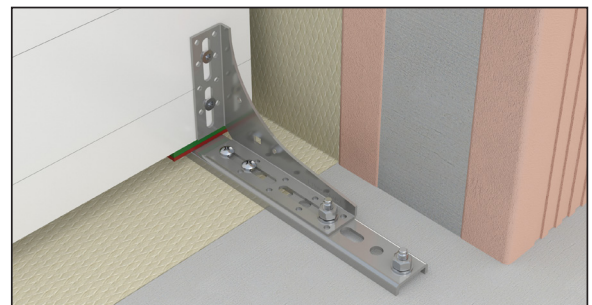
### 3.4. BAP-SLK - Heavy Load Bracket

- for secure mounting underneath floor-depth elements
- right-angled bracing of the balcony connection profile
- offers high load transference
- simple and fast mounting in case of an already existing insulating layer
- maximum load tested by ift-Rosenheim
- suitable for fall-proof window mounting
- tested according to ETB guidelines (ift-Rosenheim):  
verification number: 18-003796-PR05

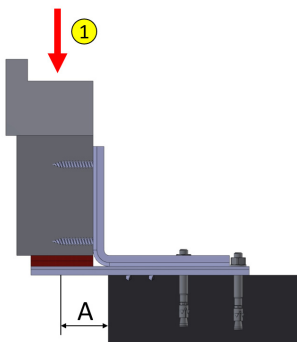
3



BAP-SLK-250 U110x150 - angle type U



BAP-SLK-300 S110x150 - angle type S



**ift-Rosenheim verification number**

Tested for loads in the window layer: 17-001190-PR01 PB 05-K26-09-de-01

1	Article-No.	Article name [mm] length U-Profile angle type angular dimensions	overhang A	maximum load	Units
	K-405210	BAP-SLK-200 U110x125	70 mm	123 kg	25
	K-405210-01	BAP-SLK-200 U110x150	70 mm	123 kg	25
	K-405211	BAP-SLK-250 U110x150	90 mm	144 kg	25
	K-405212	BAP-SLK-300 S110x150	110 mm	116 kg	25
	K-405213	BAP-SLK-350 S120x200	110 mm	116 kg	25
Scope of delivery per item: 1x U-Profile, 1x Connecting Angle, 2x Drilling Screw Ø6,3x16, 2x Heavy-Duty Dowel Ø8x71					

#### Installation instruction



**Step 1**

The U-Profile is fixed to the concrete sole using a Heavy-Duty Dowel.



**Step 2**

Place the element onto the U-Profile and align it using mounting blocks.



**Step 3**

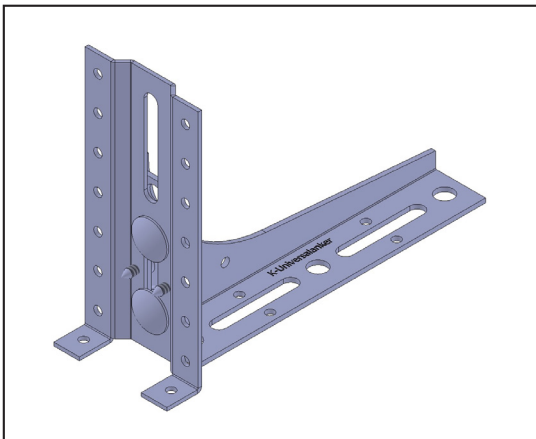
The angle is screwed to the U-Profile using two Drilling Screws. The screws have to be positioned as closely as possible to the balcony connection profile in order that the maximum load can be carried. Next, the angle and the U-Profile are fixed to the concrete sole with the Heavy-Duty Dowel.



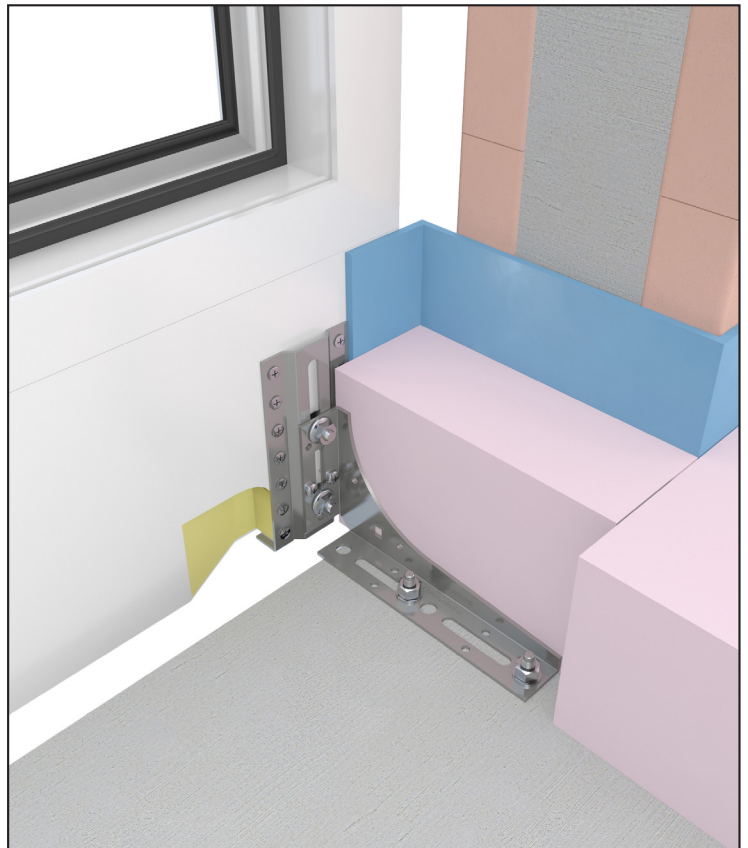
The sealing film can be glued before the angle is screwed on.

**3.5. BAP-SLW - BAP-Heavy Load Angle**

- 3**
- for the mounting of floor-depth elements
  - offers high load transference
  - secure fixing of the window to the concrete floor
  - secure wedging even in case of unreinforced connection profiles



BAP-SLW-140-95x180x2,5



BAP-SLW-140-95x180x2,5

Article-No.	Article name [mm] connection plate - length 1 x length 2 x material thickness	Units
K-405193	BAP-SLW-60-60x180x2,5	5
K-405194	BAP-SLW-100-95x180x2,5	5
K-405195	BAP-SLW-140-95x180x2,5	5
K-405196	BAP-SLW-180-150x200x2,5	5
K-405197	BAP-SLW-220-150x200x2,5	5

Scope of delivery per item: 1x Heavy Load Angle, 1x BAP-Connection Plate, 2x Drilling Screw Ø4,8x13, depending on the design 1-2x Carriage Bolt M8x16 & 1-2x Flange Nut M8

**Installation instruction**

The connection plate has an installation edge and multiple drilled holes for a secure mounting even to unreinforced connection profiles.

The Heavy Load Angle is screwed to the connection plate with the Carriage Bolts and fixed with two Drilling Screws. Fix the angle to the concrete floor with two Heavy-Duty Dowels.

**Associated products**

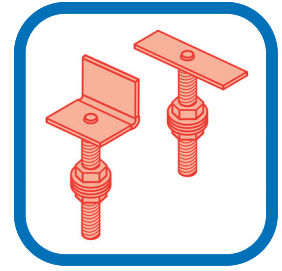


**Heavy-Duty Dowel**  
page 136

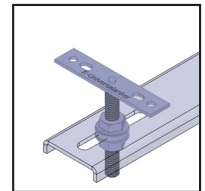




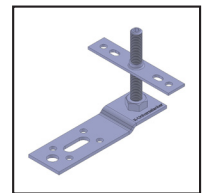
# Adjusting Elements



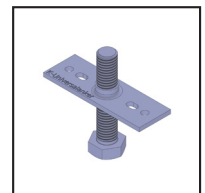
4.1. Adjusting Element.....72



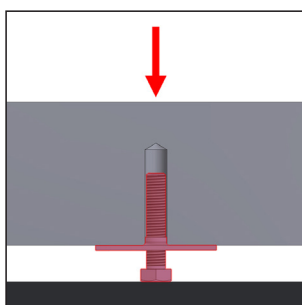
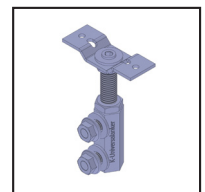
4.2. BAP-Adjusting Element.....73



4.3. WU-Adjusting Element.....74



4.4. J-Blocking - Adjustable Blocking.....75



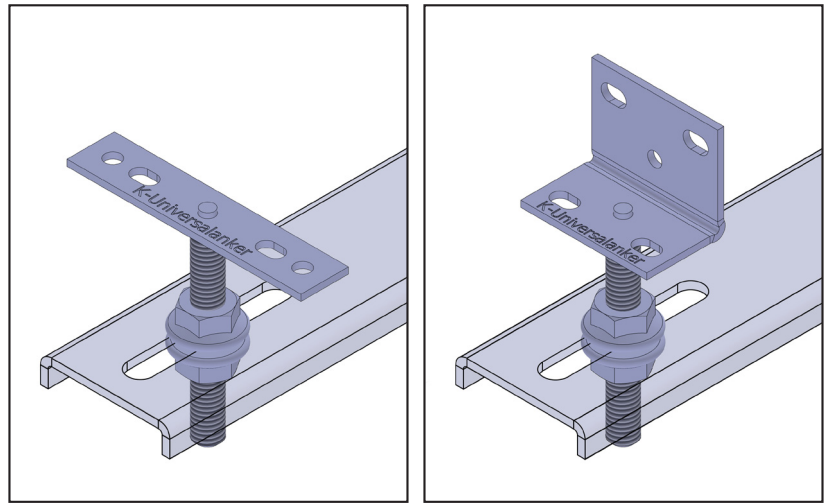
thread	maximum load*
M8	500 kg
M12	1000 kg

\*calculated values

4.1. Adjusting Element

- many possible combinations with K-Universal Anchors
- easily adjustable wedging

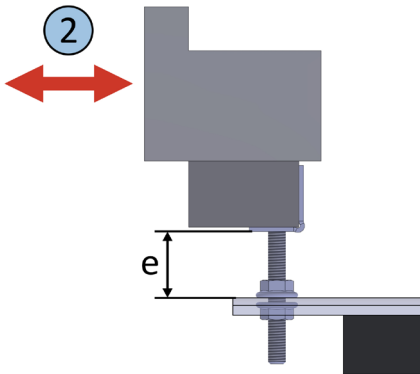
4



Adjusting Element flat and angle connection

Article-No.	Article name [mm] connection - pin length	Connection	Units
K-000010	Adjusting Element-F40	flat connection M8x40	50
K-000011	Adjusting Element-F60	flat connection M8x60	50
K-000013	Adjusting Element-W40	angle connection M8x40	50
K-000015	Adjusting Element-W60	angle connection M8x60	50

Scope of delivery per item: 1x connection element, 2x Flange Nut M8

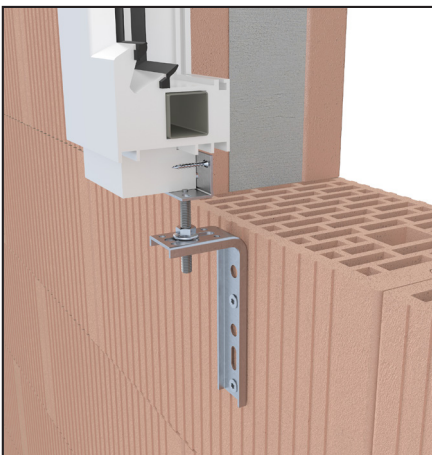


**ift-Rosenheim verification number**

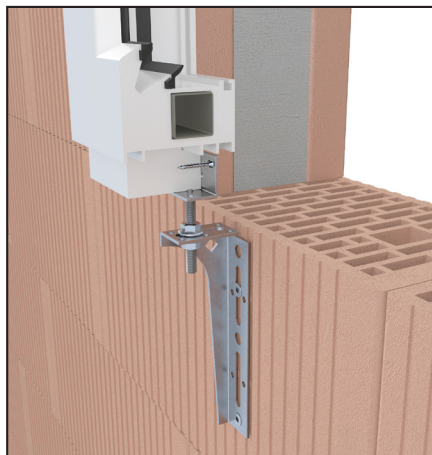
Tested for loads which are perpendicular to the window layer:  
12-002151-PR07\_PB-E03-09-de-02, 21-001960-PR02 PB 04-K26-09-de-01

	tested joint width e	maximum load
2	36 mm	68 kg
	54 mm	43 kg

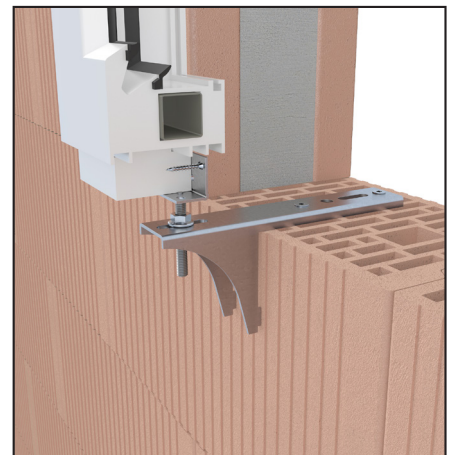
In combination with FMW U-Profile



In combination with SLW

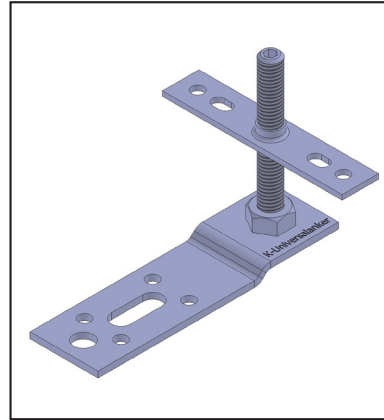


In combination with SL-Console

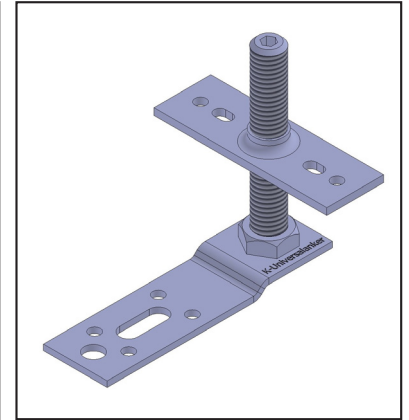


## 4.2. BAP-Adjusting Element

- suitable for all systems (aluminium, wood, plastic)
- easily adjustable wedging
- can be combined with the EL-Anchor, SL-Profile and SL-Bracket



BAP-Adjusting Element - M8x60



BAP-Adjusting Element - M12x70

4

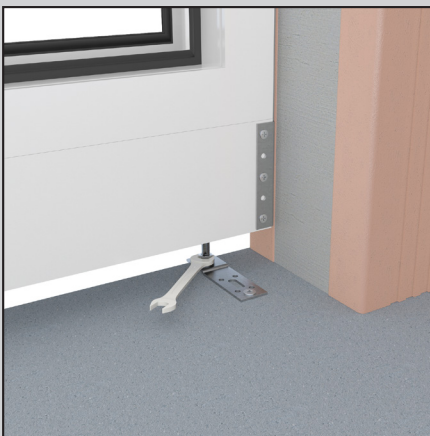
Article-No.	Article name [mm] thread x pin length	adjustable height	Units
K-130001	BAP-Adjusting Element-M8x40	14 - 38 mm	50
K-130002	BAP-Adjusting Element-M8x60	14 - 58 mm	50
K-130003	BAP-Adjusting Element-M12x70	15 - 75 mm	50

### Installation instruction

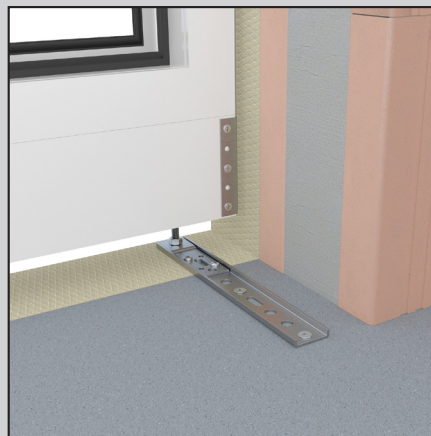
#### Preparation

Pre-drill mounting positions.

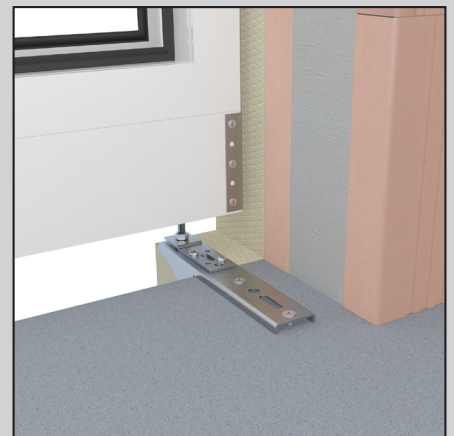
#### BAP-Adjusting Element



#### In combination with EL-Anchor

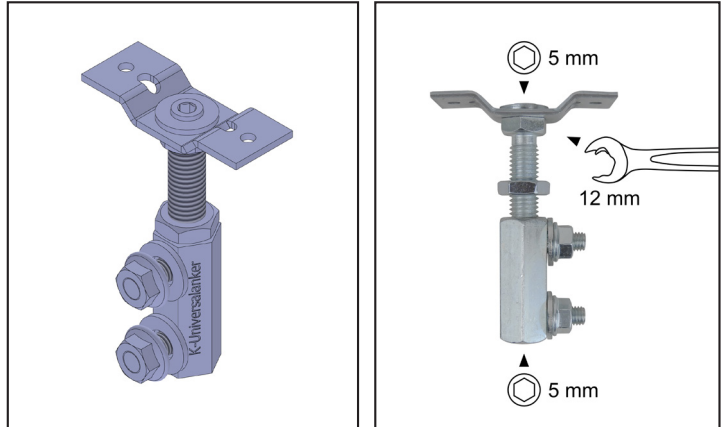


#### In combination with SL-Console



4.3. WU-Adjusting Element

- suitable for all window systems (aluminum, wood, plastic)
- easily adjustable wedging
- can be adjusted from above, below and laterally
- can be combined with K-Universal anchor angles

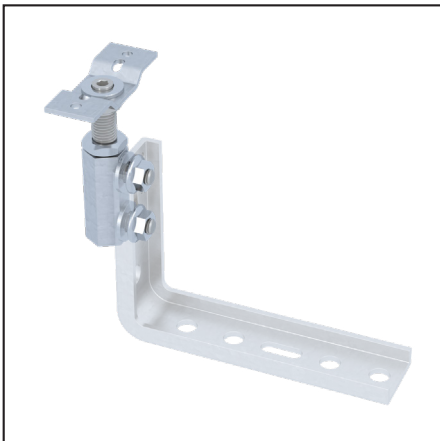


Article-No.	Article name [mm] thread x pin length - connection	adjustable height	Units
K-000314	WU-Adjusting Element-M12x70-F	50 mm	25
Scope of delivery per item: 1x threaded bolt M12x70-F (flat connection M12x70), 1x connection nut M12x50, 1x hexagon nut flat M12, 2x washer for Ø10,5, 2x Flange Nut M8			

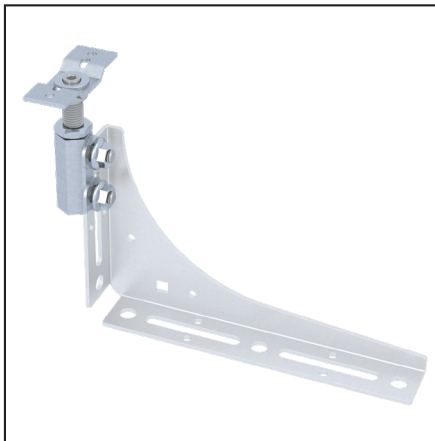
Installation instruction

Adjustment is done via the threaded pin. The counter nut secures the adjustment and against movement.

In combination with FMW-65x145x3.0



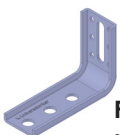
In combination with SLW-120x200x2,5



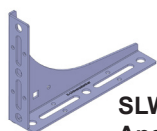
In combination with SLW-120x200x2,5



Associated products



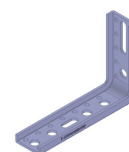
**FMW-U-Profile**  
page 52



**SLW - Heavy Load Angle**  
page 58



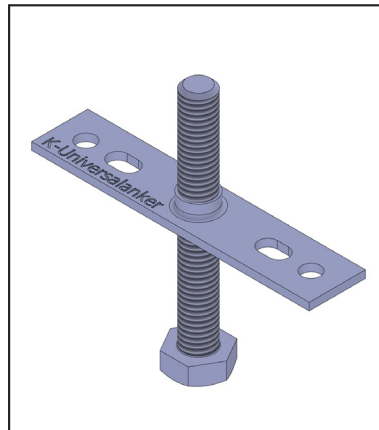
**Ratchet Wrench**  
page 140



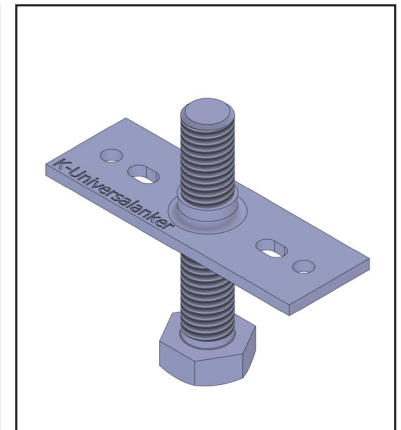
**VBW - Connecting Angle**  
page 64

## 4.4. J-Blocking - Adjustable Blocking

- easily adjustable wedging
- blocking does not slip
- inside and outside of lift-up sliding doors can be adjusted individually
- different sizes
- can be combined with SL-Profile, HST-SL-Bracket and VBW - Connecting Angle

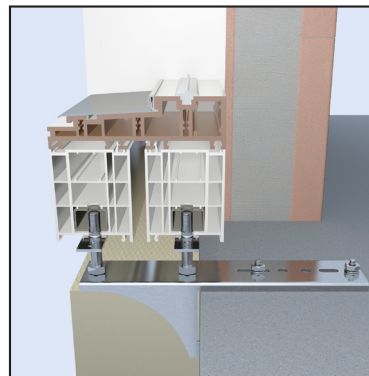
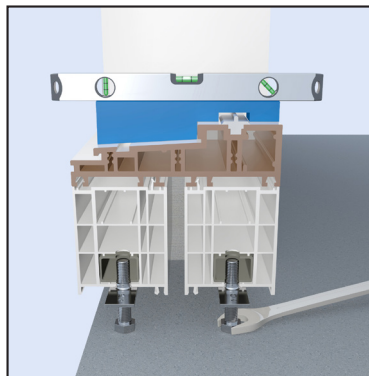
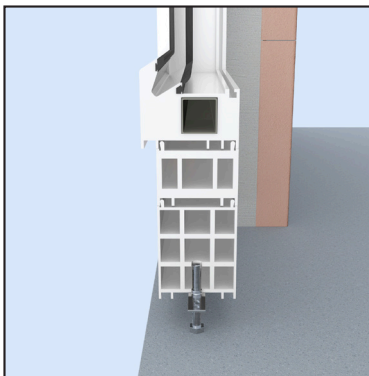


J-Blocking-M8x65



J-Blocking-M12x68

Article-No.	Article name [mm] thread x pin length	Recess	Units
K-1300100	J-Blocking-M8x65	SW 13	25
K-130019	J-Blocking-M12x68	SW 19	25
K-130021	J-Blocking-M12x108	SW 19	25
K-130020	J-Blocking-M12x100-ISK	SW 19 ISK 6	25

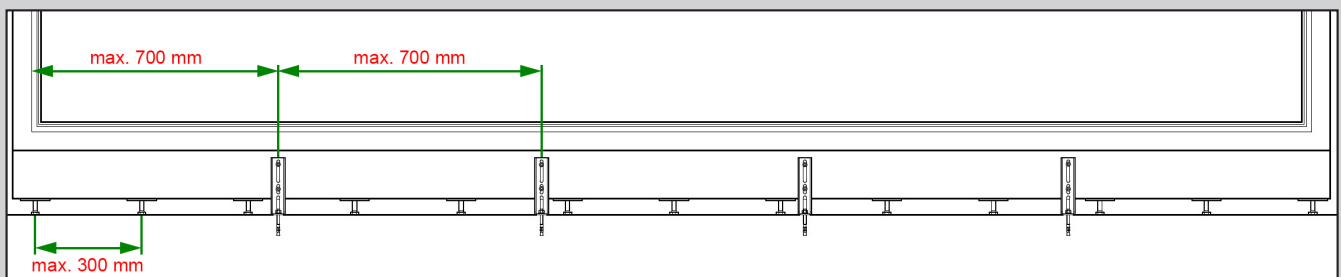


to the video



### Installation instruction Lift-up sliding door

Pre-drill the connection profile. Attach the J-Blocking to the connection profile and screw it in.

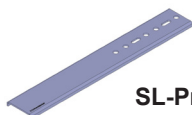


mounting distance; tested measurements

### Associated products



HST-SL-Console  
page 42



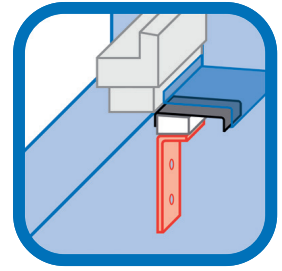
SL-Profile  
page 44



Ratchet Wrench  
page 140



# Window Sill Brackets

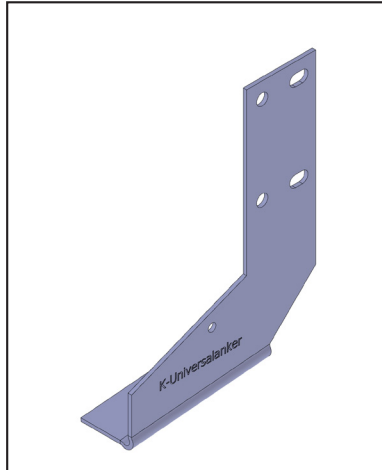


Mounting of window sills, also for walkable ones.

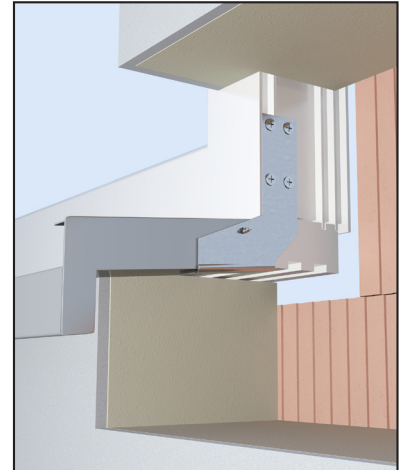
5.1. Direct-Window Sill Brackets (flush and variable).....	78
5.2. T-AFBH - Thermal Aluminium Window Sill Bracket.....	80
5.3. T-SFBH - Thermal Stone Window Sill Bracket.....	82
5.4. T-AFBH - Thermal Aluminium Window Sill Bracket, walkable.....	84
5.5. T-SFBH - Thermal Stone Window Sill Bracket, walkable.....	86

5.1. Direct-Window Sill Brackets (flush and variable)

- 5
- direct mounting to the window frame
  - no thermal bridges
  - ensures a uniform incline of 5°
  - flush: window sill flush with external window frame
  - variable: window sill is shorter than the window frame



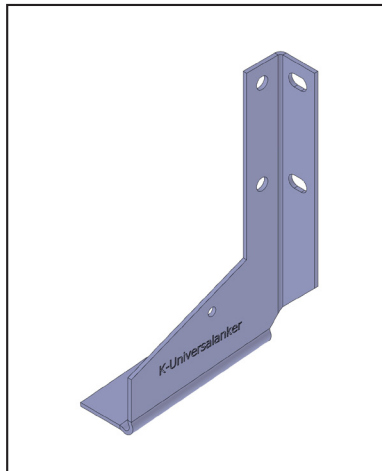
D-FBH flush



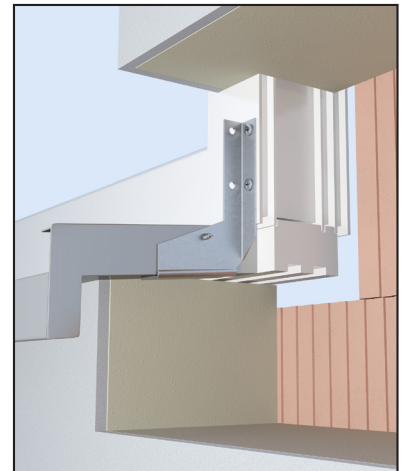
D-FBH flush

Installation instruction

Because of the direct mounting of the window sill bracket to the window, it is irrelevant how far it extends into the insulating layer. The window sill end piece lies directly on the bracket. The window sill bracket guarantees a consistent tilt. Through the screwing or glueing of the window sill end pieces to the window sill bracket, loads from below (e.g. wind load) are also carried.



D-FBH variable

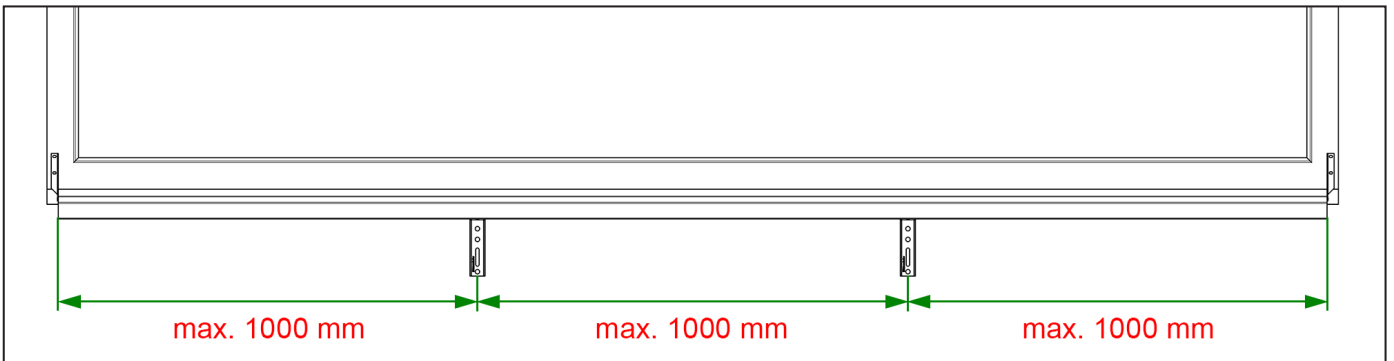


D-FBH variable

Article-No.	Article name [mm]	tilt	Units
K-405065	D-FBH flush	5°	100
K-405066	D-FBH variable	5°	100

Scope of delivery per item: 50x left, 50x right

Mounting distances for aluminium window sills



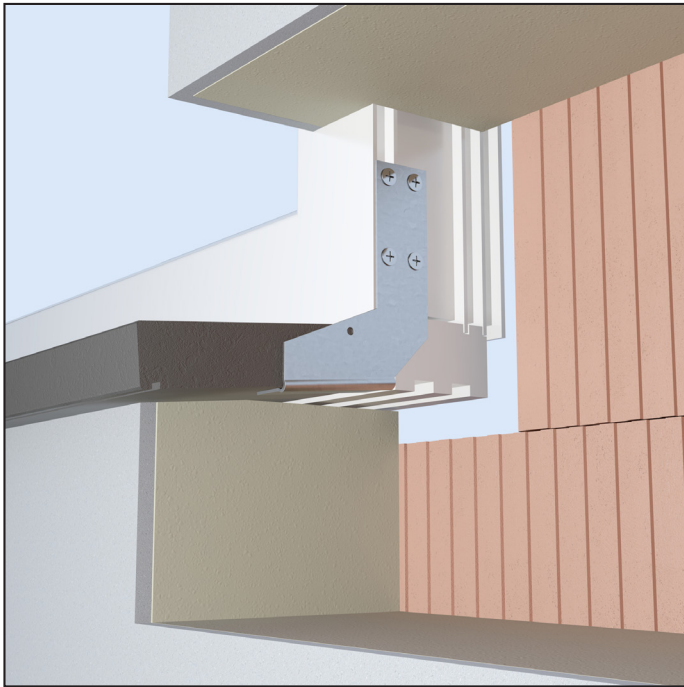
Mounting distances with maximum projection depth of 240 mm



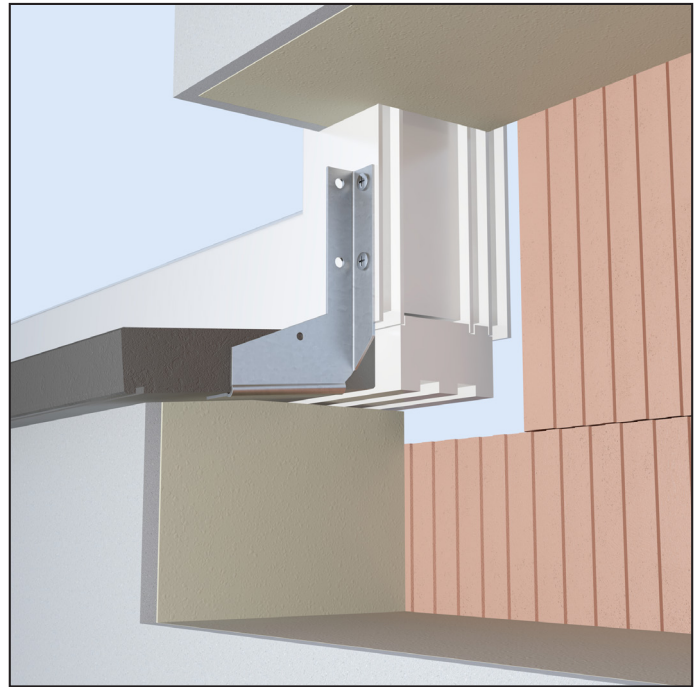
It is sufficient to set a window sill bracket at the right and the left side until a length of 1000 mm and an overhang depth of 240 mm.

As a mounting aid for stone window sills

5

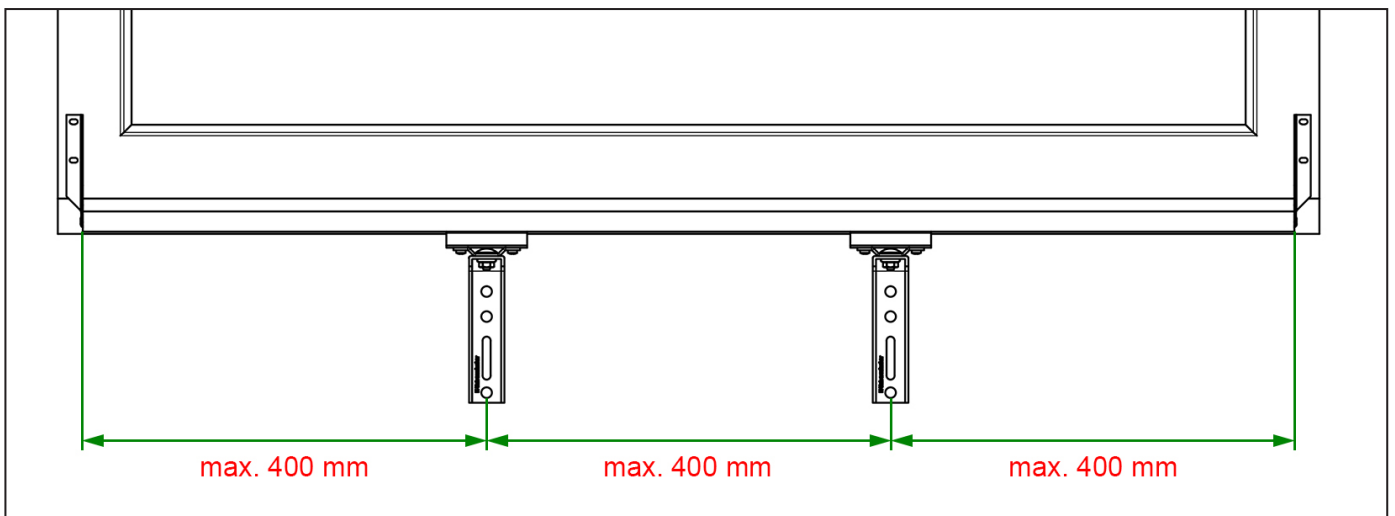


D-FBH flush



D-FBH variable

Mounting distances for stone window sills



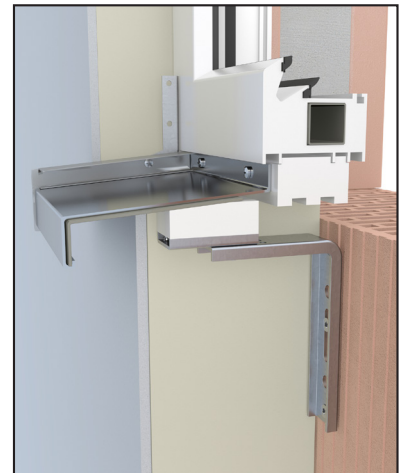
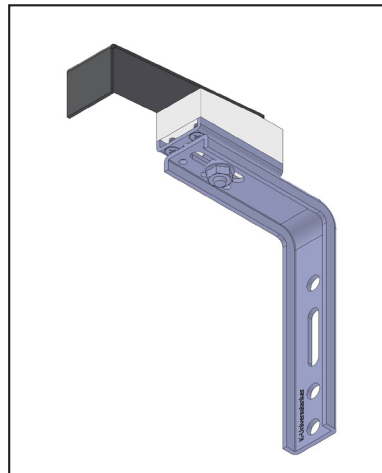
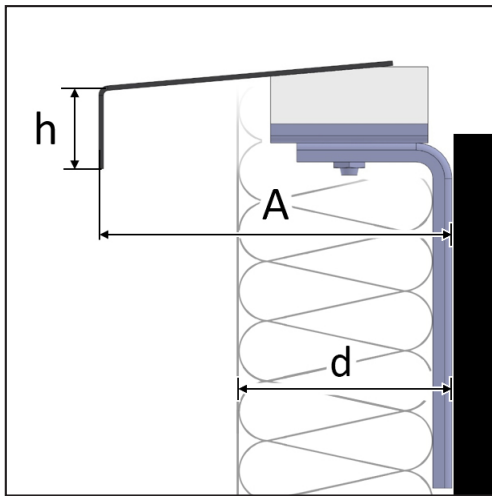
Mounting distances with maximum projection depth of 240 mm; tested measurements

The mounting distances specified by the window sill manufacturer must be adhered to.

### 5.2. T-AFBH - Thermal Aluminium Window Sill Bracket

5

- mounting directly onto the masonry
- with thermal separation
- ensures a uniform incline of 5°
- steplessly adjustable
- 3,0 mm thick angle



T-AFBH35 120-160

Article-No.	Article name [mm]	Insulation d [mm]	h [mm]	A [mm]	Units
K-405280-1	T-AFBH30 80-120	80 - 120	30	135 - 175	25
K-405280	T-AFBH35 80-120	80 - 120	35	135 - 175	25
K-405281-1	T-AFBH30 120-160	120 - 160	30	175 - 215	25
K-405281	T-AFBH35 120-160	120 - 160	35	175 - 215	25
K-405282-1	T-AFBH30 160-200	160 - 200	30	215 - 260	25
K-405282	T-AFBH35 160-200	160 - 200	35	215 - 260	25

Scope of delivery per item: 1x FMW-U-Profil, 1x Bracket, 1x Carriage Bolt M8x16, 1x Flange Nut M8

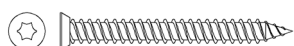
#### Installation instruction

The T-AFBH is fixed directly to the masonry. Therefore, the specification of the insulation is important regarding the selection of the product.



The Direct-Window Sill Bracket (page 78) can be used as an installation aid, as it offers secure support and a consistent tilt on the right and left.

#### Associated products



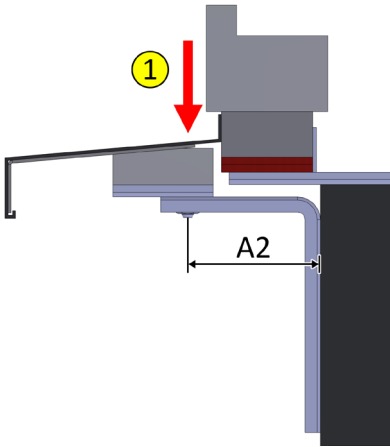
**Window Mounting Screws**  
page 134



**Dowels**  
page 136



**Drills**  
page 144



**Load values with U-profile**

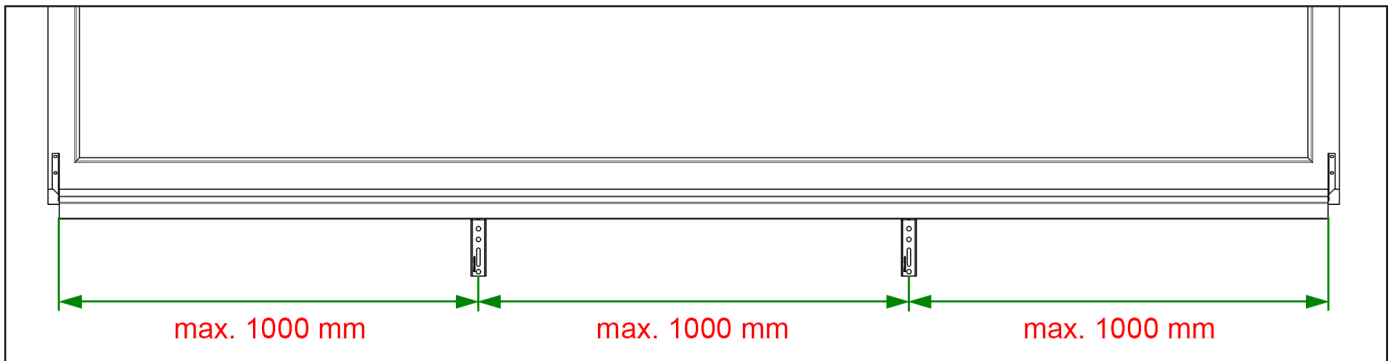
*ift-Rosenheim verification number*

*Tested for loads in the window layer: 17-001190-PR01 PB 01-K26-09-de-01*


1	maximum load / overhang A2				
	55 mm	57 mm	60 mm	87 mm	143 mm
	147 kg	143 kg*	139 kg	66 kg	16 kg

\*approximate value based on test reports

**Mounting distances for aluminium window sills**



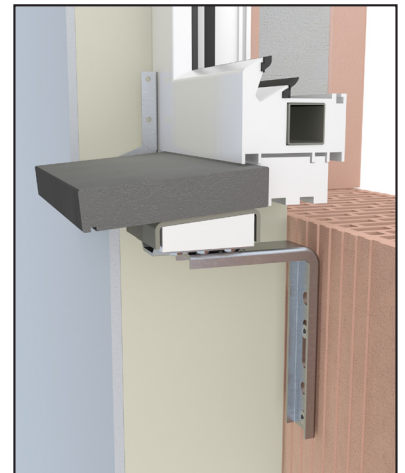
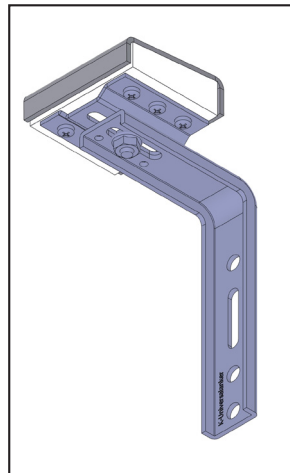
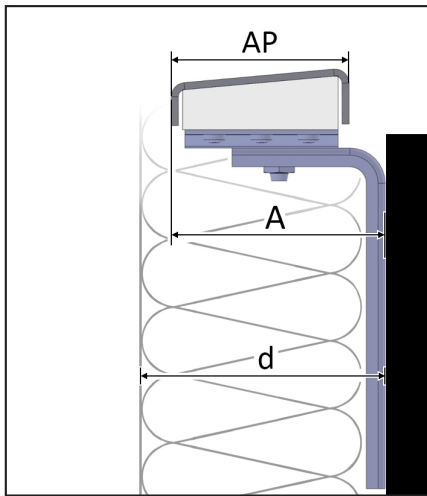
Mounting distances with maximum projection depth of 240 mm

 It is sufficient to set a window sill bracket at the right and the left side until a length of 1000 mm and an overhang depth of 240 mm.

5.3. T-SFBH - Thermal Stone Window Sill Bracket

5

- mounting directly onto the masonry
- with thermal separation
- ensures a uniform incline of 5°
- steplessly adjustable



T-SFBH 120-160

Article-No.	Article name [mm]	support profile AP [mm]	angle type	insulation d [mm]	A [mm]	Units
K-405160	T-SFBH 80-120	75	U-Profile	80 - 120	75 - 115	25
K-405161	T-SFBH 120-160	75	U-Profile	120 - 160	110 - 155	25
K-405162	T-SFBH 160-200	75	U-Profile	160 - 200	155 - 195	25
K-40516300	T-SFBH-130-U 160-200	130	U-Profile	160 - 200	150 - 200	25
K-40516800	T-SFBH-130-S 160-200	130	SLW	160 - 200	150 - 200	25

Scope of delivery per item: 1x Angle, 1x Bracket, 1x Carriage Bolt M8x16, 1x Flange Nut M8

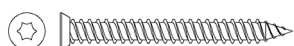
Installation instruction

The Thermal Stone Window Sill Bracket must be glued to the stone window sill during mounting. The Thermal Stone Window Sill Bracket is fixed directly to the masonry. Therefore, the specification of the insulation is important regarding the selection of the product.



The Direct-Window Sill Bracket (page 78) can be used as an installation aid, as it offers secure support and a consistent tilt on the right and left. A glue, which is suitable for the stone window sill, is needed.

Associated products



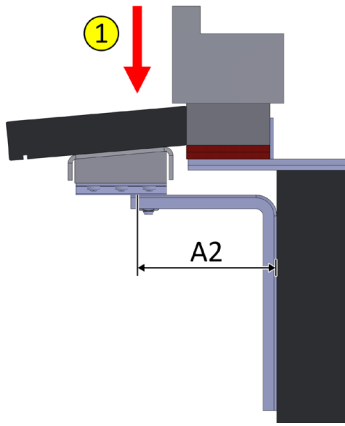
Window Mounting Screws  
page 134



Dowels  
page 136



Drills page  
144



**Load values with U-profile**

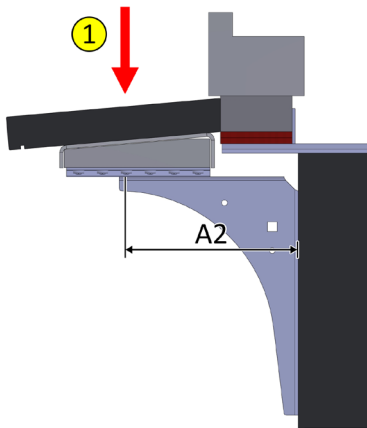
*ift-Rosenheim verification number*

*Tested for loads in the window layer: 17-001190-PR01 PB 01-K26-09-de-01*

1	Material thickness	maximum load / overhang A2				
	3,0 mm	55 mm	57 mm	60 mm	87 mm	143 mm
		147 kg	143 kg*	139 kg	66 kg	16 kg

\*approximate value based on test reports

5



**Load values with SLW**

*ift-Rosenheim verification number*

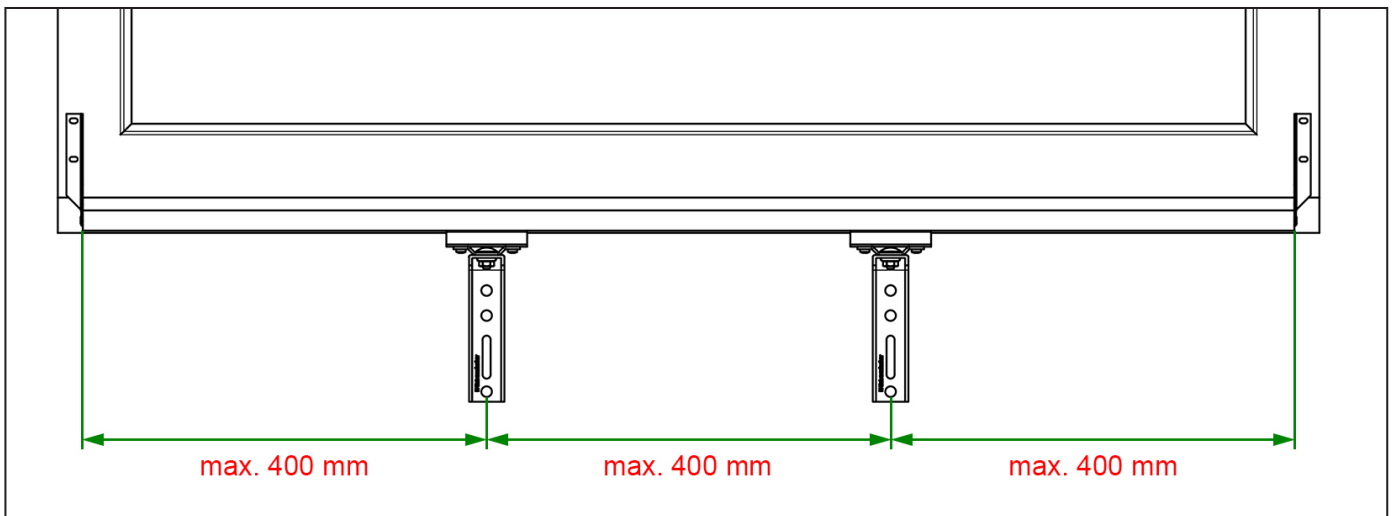
*Tested for loads in the window layer: 17-001190-PR01 PB 02-K26-09-de-01*

1	Article-No.	maximum load / overhang A2
	K-40516800	110 mm
		172 kg



The specified load values refer to an attachment with the long leg of the angle to the masonry.

**Mounting distances for stone window sills**



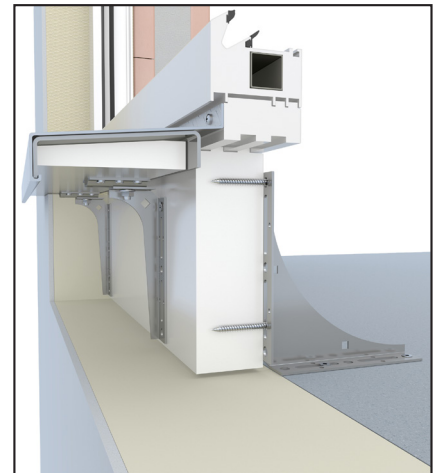
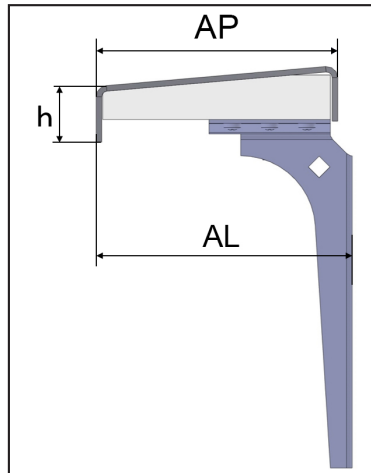
Mounting distances with maximum projection depth of 240 mm; tested measurements

The mounting distances specified by the window sill manufacturer must be adhered to.

5.4. T-AFBH - Thermal Aluminium Window Sill Bracket, walkable

- mounting for walkable aluminium window sills
- with thermal separation
- direct attachment to the window sill connection profile
- steplessly adjustable
- offcuts can be reused

5



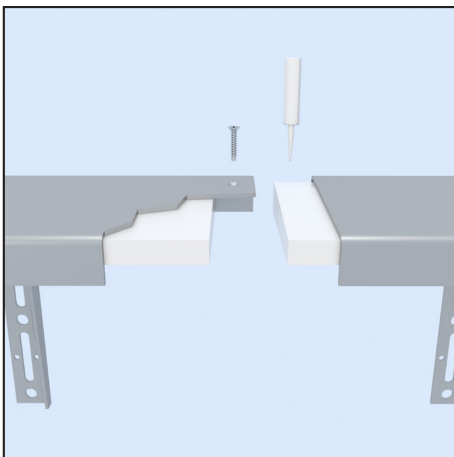
T-AFBH-walkable 130-165

Article-No.	Article name [mm]	h [mm]	support profile AP [mm]	overhang AL [mm]	Units
K-405310	T-AFBH34-walkable 130-165	34	130	130 - 165	1
K-405311	T-AFBH34-walkable 165-200	34	130	165 - 200	1
K-405312	T-AFBH34-walkable 200-250	34	130	200 - 250	1
K-40531203	T-AFBH34-walkable-180 200-250	34	180	200 - 250	1
K-405313	T-AFBH34-walkable 250-350	34	130	250 - 350	1

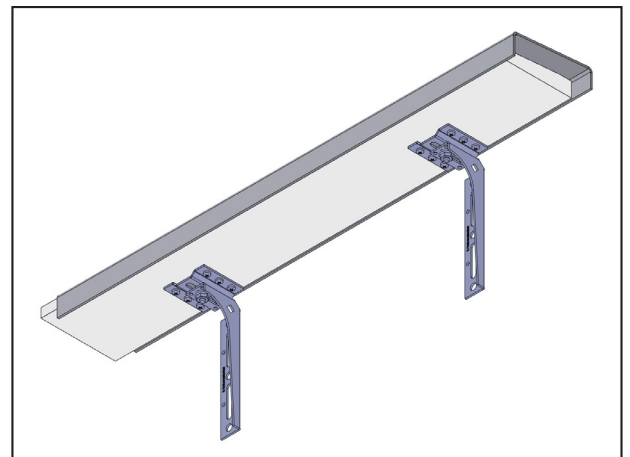
Scope of delivery per item: 1x Support Profile length 747 mm, 2x Heavy Load Angle, 2x Carriage Bolt M8x16, 2x Flange Nut M8

Installation instruction

A heavy-duty angle or BAP heavy-duty angle is used on the inside of the window to reinforce the connection profile. The Thermal Aluminium Window Sill Bracket, walkable is attached directly to the substructure profile. The support profile has a length of 747 mm and can be extended as required.

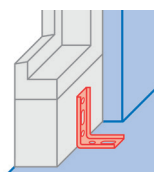


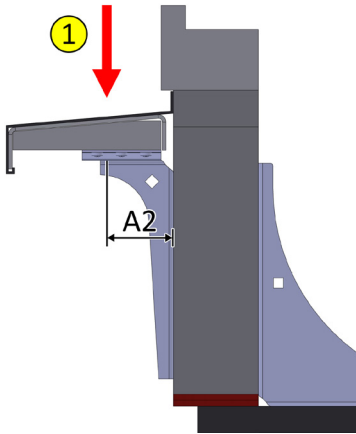
connector system



T-AFBH walkable 130-165

Associated products





**Load values with SLW**

*ift-Rosenheim verification number*

*Tested for loads in the window layer: 17-001190-PR01 PB 02-K26-09-de-01*

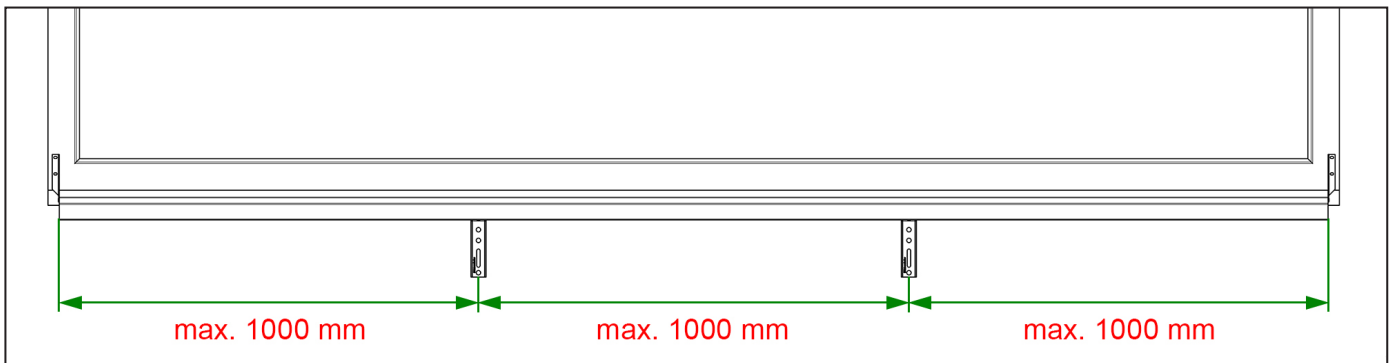
1	maximum load / overhang A2				
	35 mm	70 mm	110 mm	150 mm	200 mm
	213 kg	213 kg	172 kg	301 kg	157 kg

5



*The specified load values refer to an attachment with the long leg of the angle to the connection profile.*

**Mounting distances for aluminium window sills**



*Mounting distances with maximum projection depth of 240 mm*

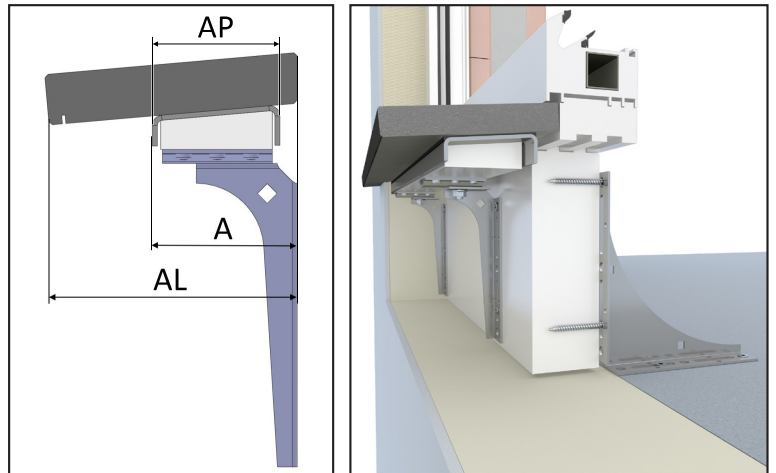


*It is sufficient to set a window sill bracket at the right and the left side until a length of 1000 mm and an overhang depth of 240 mm.*

5.5. T-SFBH - Thermal Stone Window Sill Bracket, walkable

- mounting for walkable stone window sills
- with thermal separation
- direct attachment to the window sill connection profile
- steplessly adjustable
- offcuts can be reused

5



T-SFBH-walkable 130-165

Article-No.	Article name [mm]	support profile AP			Units
		[mm]	overhang AL [mm]	A [mm]	
K-405320	T-SFBH-walkable 130-165	75	130 - 165	75 - 105	1
K-405321	T-SFBH-walkable 165-200	75	165 - 200	95 - 145	1
K-40532200	T-SFBH-walkable-130 190-225	130	190 - 225	130 - 165	1
K-40532210	T-SFBH-walkable-130 210-260	130	210 - 260	150 - 200	1

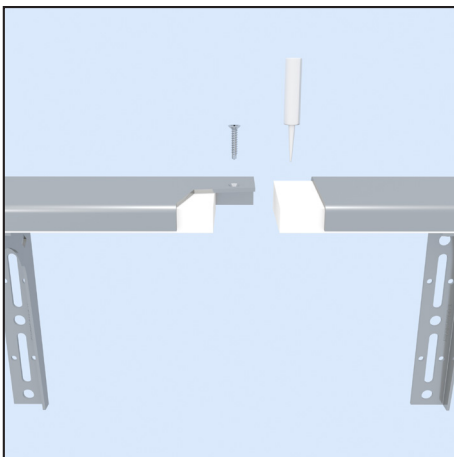
Scope of delivery per item: 1x Support Profile length 747 mm, 2x Heavy Load Angle, 2x Carriage Bolt M8x16, 2x Flange Nut M8

Installation instruction

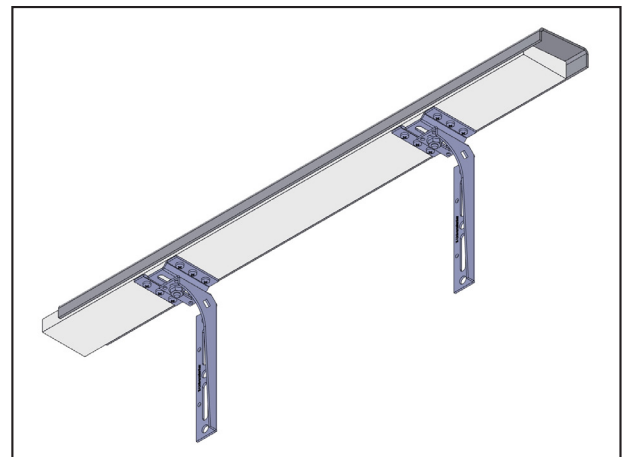
The Thermal Stone Window Sill Bracket, walkable is fixed directly to the window sill connection profile. For this, the connection profile must be fastened sufficiently to the concrete base on the inside. The support profile has a length of 747 mm and can be extended as required.



A glue which is suitable for the stone window sill is needed.

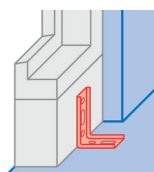


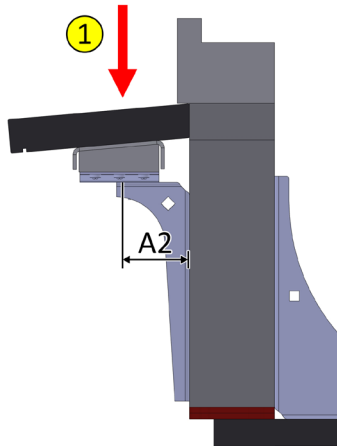
connector system



T-SFBH-walkable 130-165

Associated products





**Load values with SLW**

*ift-Rosenheim verification number*

*Tested for loads in the window layer: 17-001190-PR01 PB 02-K26-09-de-01*

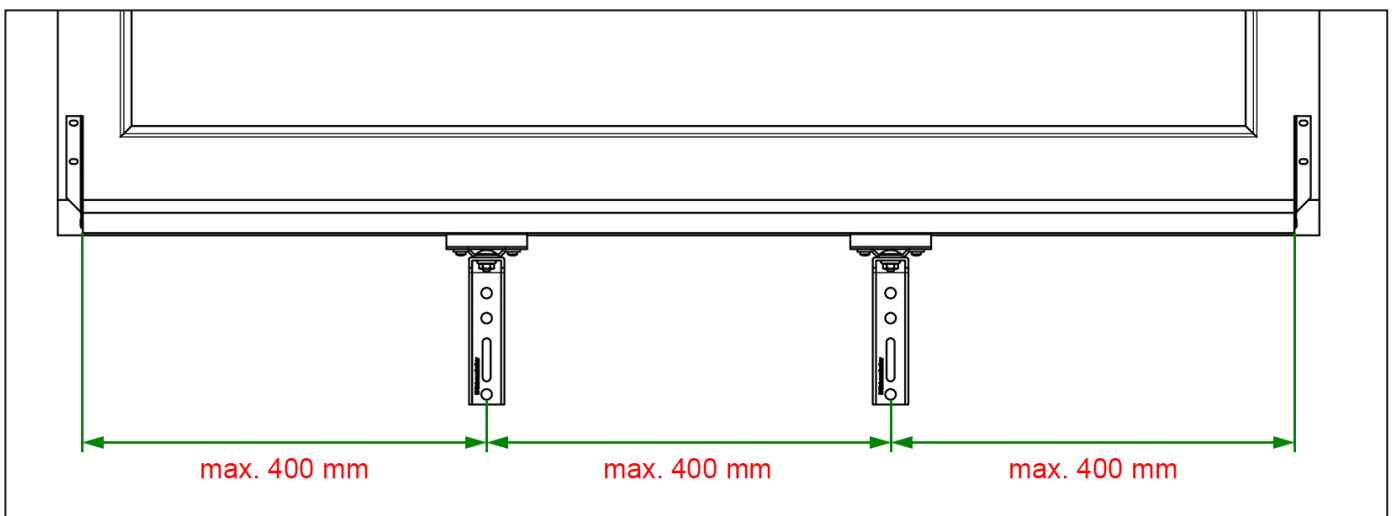
1	maximum load / overhang A2		
	35 mm	70 mm	110 mm
	213 kg	213 kg	172 kg

5



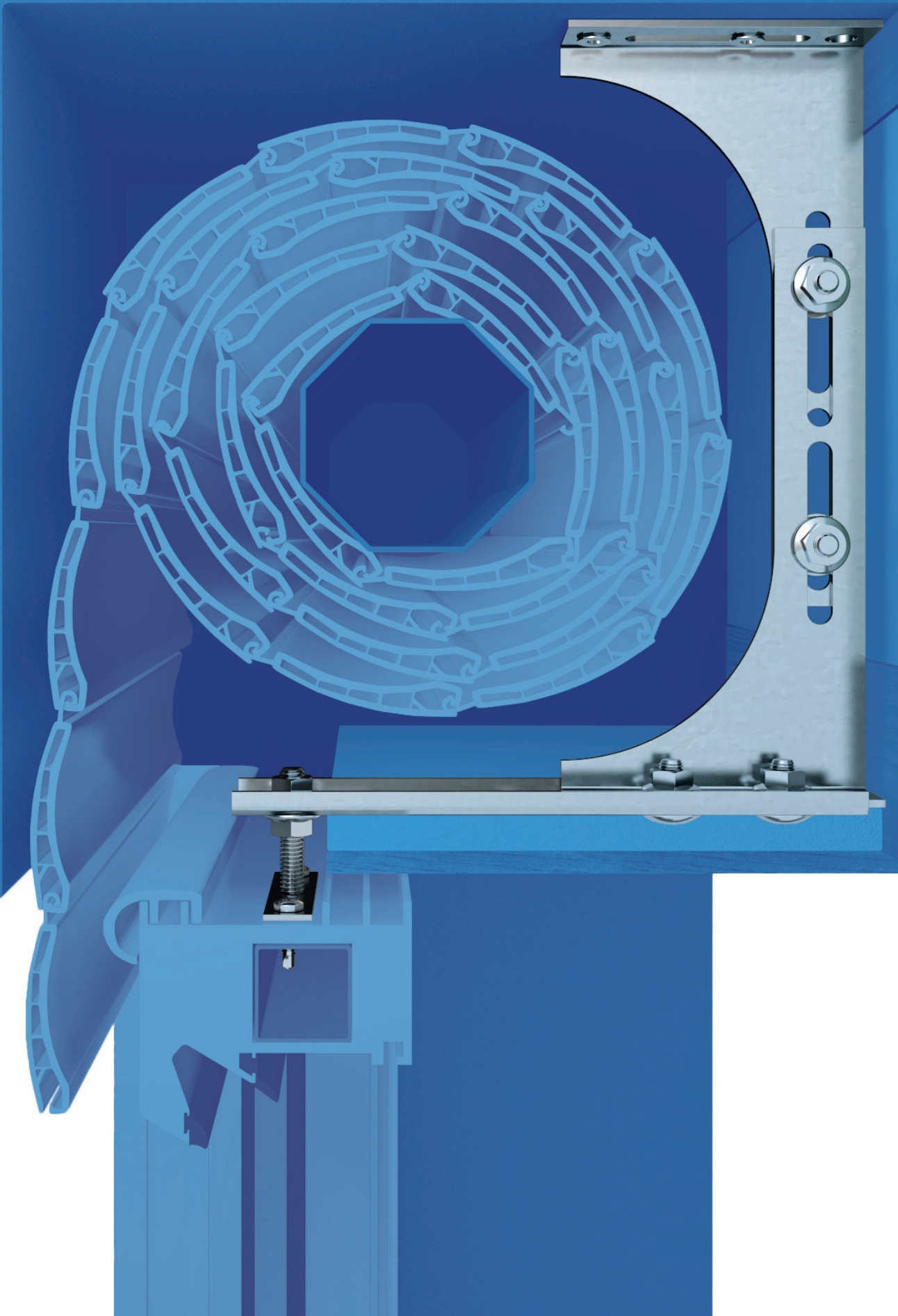
*The specified load values refer to an attachment with the long leg of the angle to the connection profile.*

**Mounting distances for stone window sills**

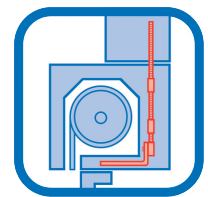


*Mounting distances with maximum projection depth of 240 mm; tested measurements*

**The mounting distances specified by the window sill manufacturer must be adhered to.**

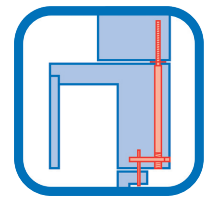


# Window fixing in the Roller Shutter Box



## Interior revision roller shutter boxes

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## Exterior blind systems and exterior revision roller shutter boxes

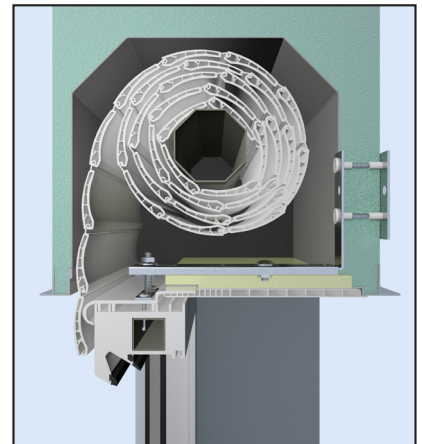
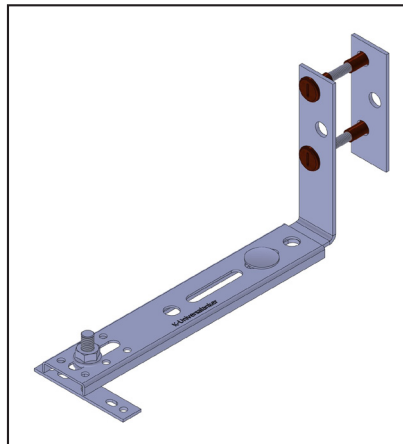
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## Lift-up sliding doors

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### 6.1. RK-Fixed-F - With Fixed Angle

- links the window frame to the roller shutter box
- thermally separated screw connection
- transfers forces (wind load, opening and closing of casements) to the rear wall of the roller shutter box



6

Article-No.	Article name [mm]	Units
K-405060	RK-Fixed-F	5

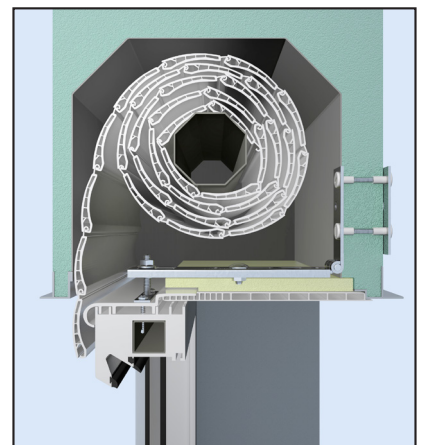
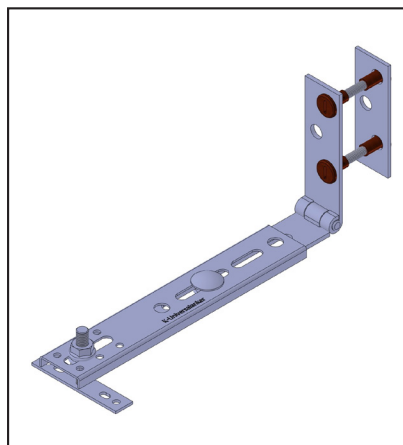
#### Installation instruction

The RK-Fixed-F enables a stepless and thermally separated attachment to the already installed roller shutter box. It carries any arising powers (wind load, opening and closing

of casements) and transfers them to the rear wall of the roller shutter box. The roller shutter box must be attached to the internal concrete ceiling or to the lintel using static angles.

### 6.2. RK-Fixed-K - With Folding Angle

- links the window frame to the roller shutter box
- thermally separated screw connection
- transfers forces (wind load, opening and closing of casements) to the rear wall of the roller shutter box
- folding RK-Fixing facilitates the installation of the roller shutter and possible repair work to the roller shutter curtain



Article-No.	Article name [mm]	Units
K-405061	RK-Fixed-K	5

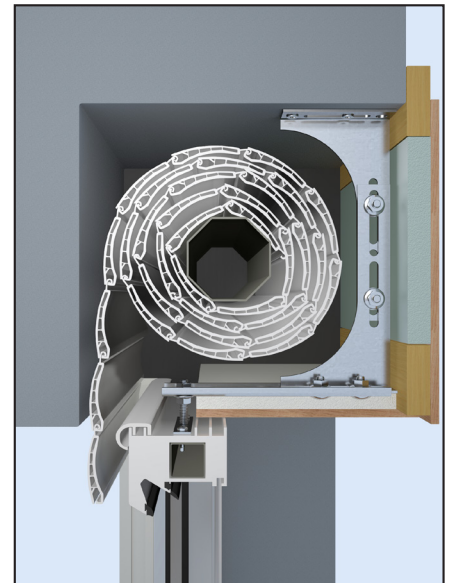
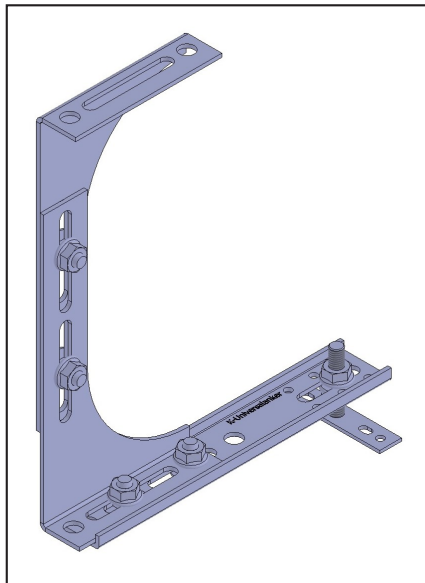
#### Installation instruction

The RK-Fixed-K enables a stepless and thermally separated attachment to the already installed roller shutter box. It carries any arising powers (wind load, opening and closing of casements) and transfers them to the rear wall of the roller shutter box.

The roller shutter box must be attached to the internal concrete ceiling or to the lintel using static angles. The folding RK-Fixing facilitates the installation of the roller shutter and possible repair work to the roller shutter curtain.

### 6.3. RK-Fixed-U - Universal

- transfers forces (wind load, opening and closing of casements) directly to the internal concrete ceiling or lintel
- stepless height adjustment from 195 to 320 mm



6

Article-No.	Article name [mm]	Units
K-405064	RK-Fixed-U	5

### Associated products



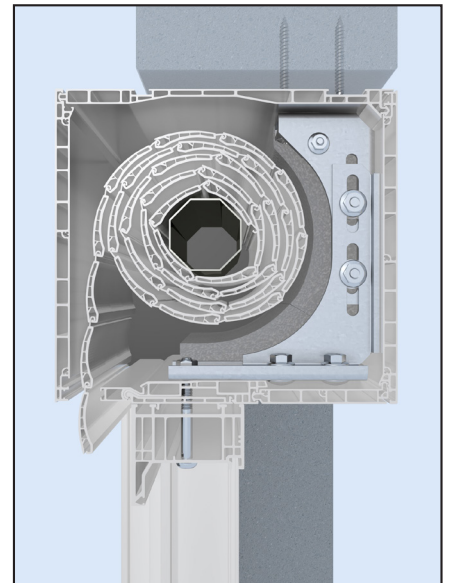
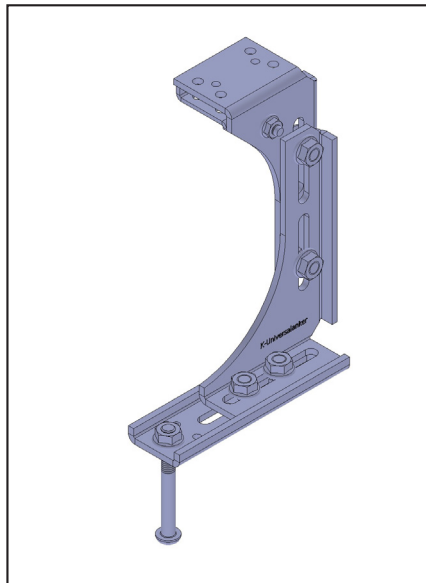
Bit Holder  
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6.4. RK-Fixed-KOM - Compact

- transmits forces (wind load, sash opening and closing) directly to the interior concrete ceiling or the lintel
- stepless adjustment
- window mounting in accordance with resistance class RC2

6

to the video



RK-Fixed-KOM-230x165-M8x70

Article-No.	Article name [mm] max. height x max. depth - thread x pin length	adjustable height	adjustable depth	Units
K-400432	RK-Fixed-KOM-215x95-M8x75	140 - 215 mm	80 - 95 mm	10
K-400436	RK-Fixed-KOM-230x165-M8x70	150 - 230 mm	95 - 165 mm	10
K-400438	RK-Fixed-KOM-230x165-M8x90	150 - 230 mm	95 - 165 mm	10
K-400440	RK-Fixed-KOM-226x80-M8x80	150 - 226 mm	22 - 80 mm	10

Associated products

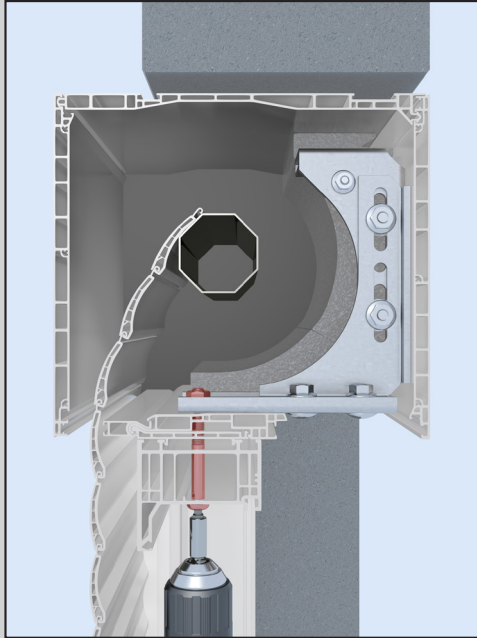


Bit Holder  
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**Installation instruction**

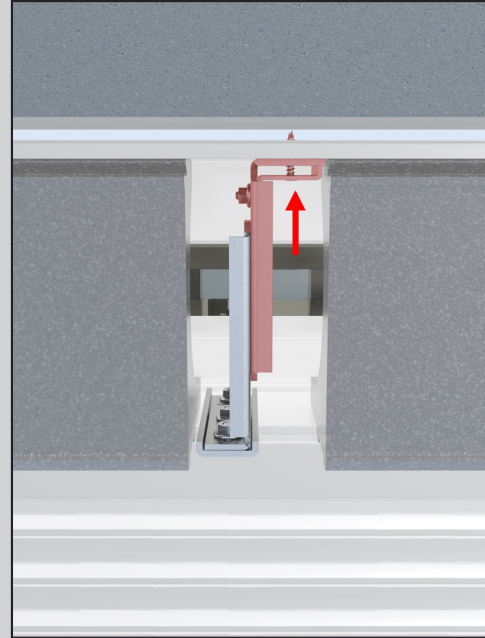
**Preparation**

Pre-drill the top of the window frame with 8.0 mm holes.



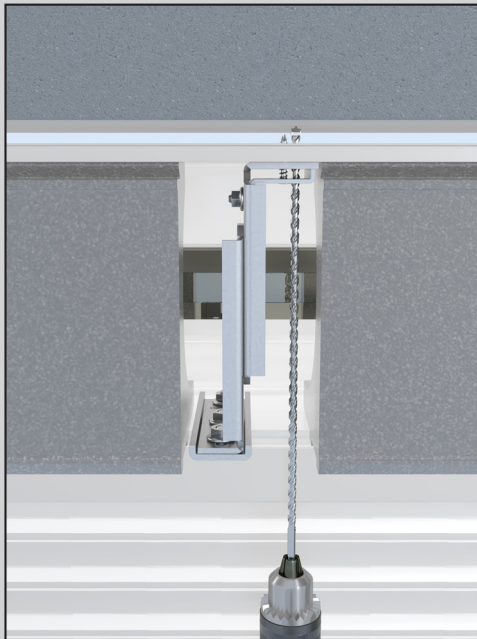
**Step 1**

Place RK-Fixed-KOM in the roller shutter box and screw it to the window frame. Secure the screw connection with the lock nut.



**Step 2**

Adjust the height and fix to the box. Secure the screw connection in the slotted hole.



**Step 3**

Drill into the lintel twice with a Ø6.5 drill bit.

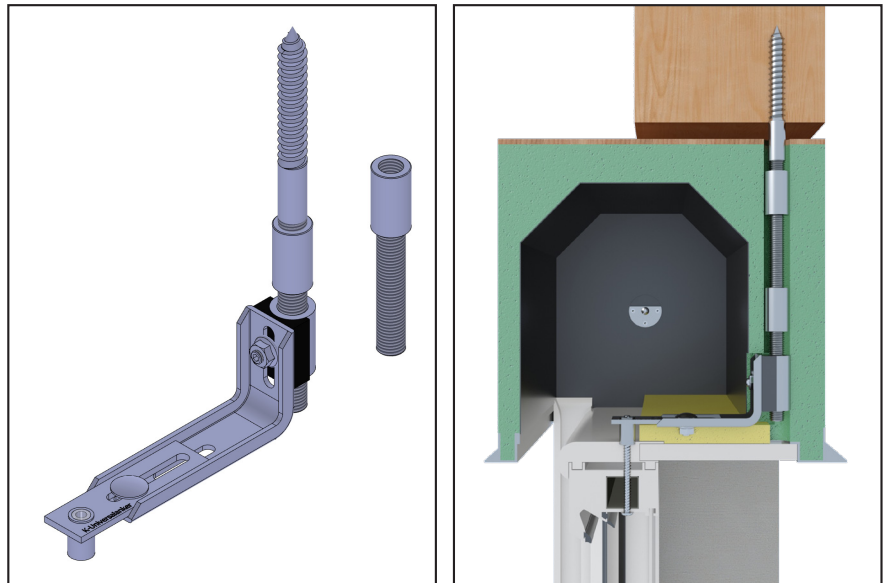


**Step 4**

Screw two Ø7.5 mm window mounting screws into the lintel.

**6.5. RK-Fixed-SS - Hanger Bolt**

- simple window mounting at the top in the roller shutter box
- transfers forces (wind load, opening and closing of casements) directly to the lintel beam
- mounting position is cut free by drilling
- suitable for all box systems
- with thermal separation
- suitable for fixing to the wood lintel



RK-Fixed-SS-16x350

Article-No.	Article name [mm]	Units
K-400120	RK-Fixed-SS-16x350	5
K-400123	RK-Fixed-SS-16x410	5
K-400126	RK-Fixed-SS-16x510	5

**Associated products**



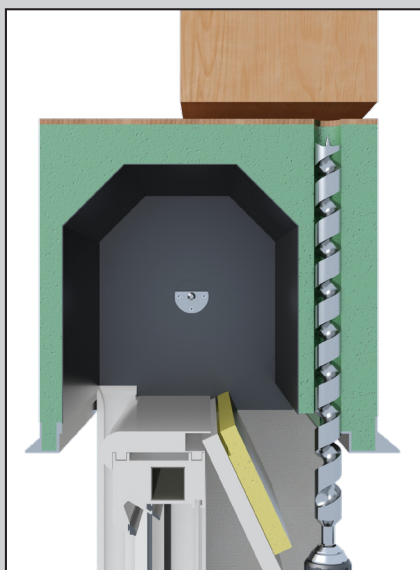
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**Drills**  
page 144

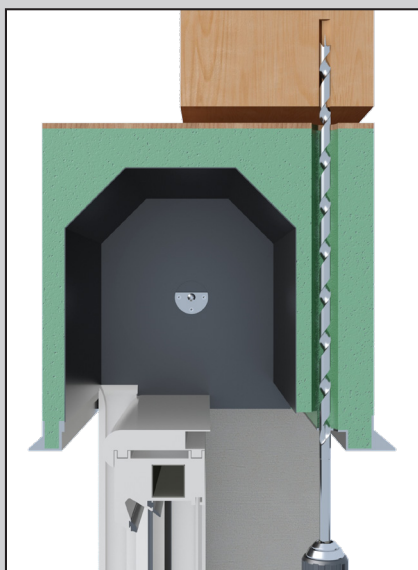
Installation instruction

6



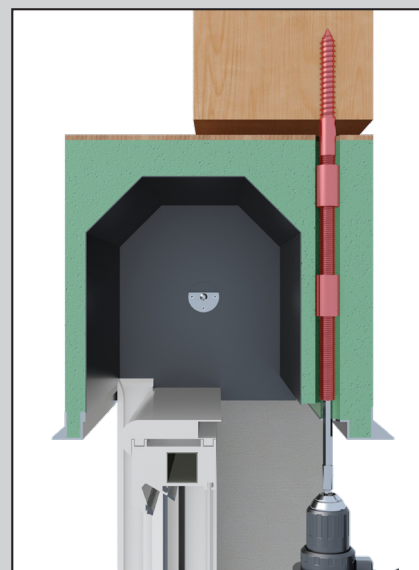
**Step 1**

Open the bottom board and create a hole with a long drill up to the lintel.



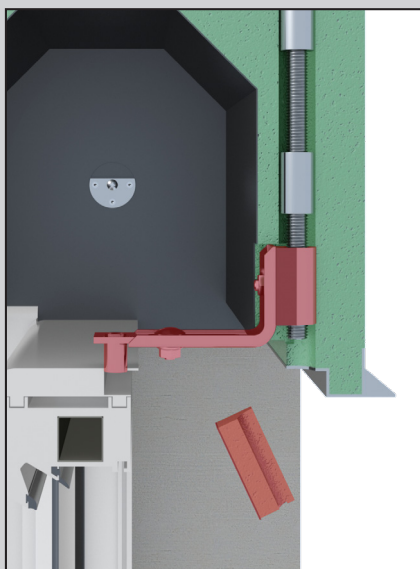
**Step 2**

Drill into the wood lintel with a long drill. Screw the RK-Screw Element, consisting of hanger bolt, connecting nut, threaded bolt and threaded bolt with drive, to the suitable length.



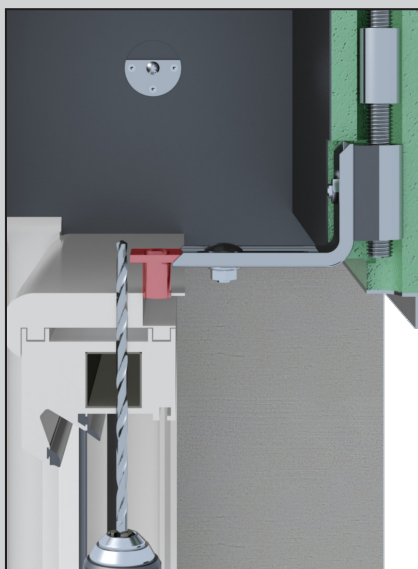
**Step 3**

Screw in the RK-Screw Element upwards.



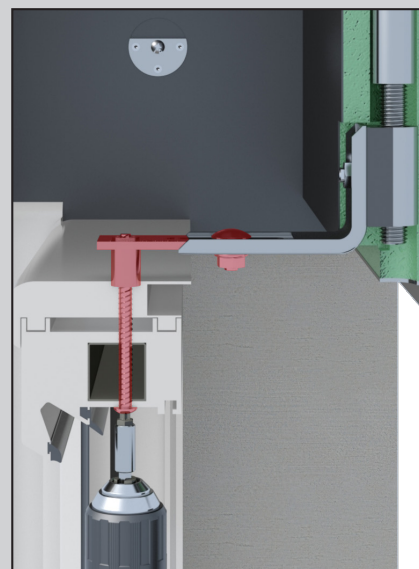
**Step 4**

Cut free and fix the connecting sleeve to the RK-Screw Element. Screw the adjustable connection element to it.



**Step 5**

Drill through the window frame and place the receiving sleeve of the adjustable connection element over the hole.



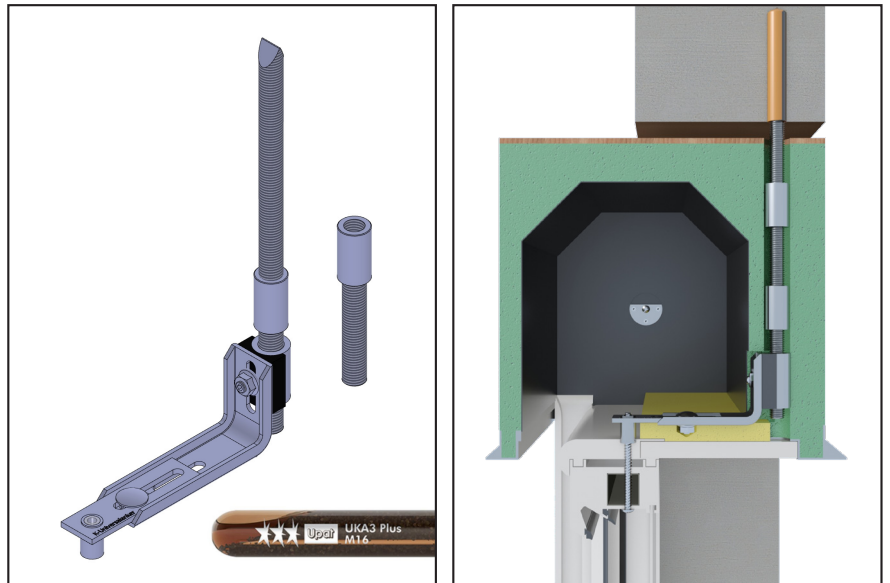
**Step 6**

Screw a  $\text{\O}7.5$  mm Window Mounting Screw through the window frame into the receiving sleeve. If the Window Mounting Screw is too long, it must be shortened. Tighten the nut with the adjustable connection element.

**6.6. RK-Fixed-RP - Reaction Cartridge**

- simple window mounting at the top in the roller shutter box
- transfers forces (wind load, opening and closing of casements) directly to the internal concrete ceiling or lintel
- mounting position is cut free by drilling
- suitable for all box systems
- with thermal separation
- gluing with reaction cartridges

6



RK-Fixed-RP-16x400

Article-No.	Article name [mm]	Units
K-400332	RK-Fixed-RP-16x400	10
K-400333	RK-Fixed-RP-16x460	10

**Associated products**

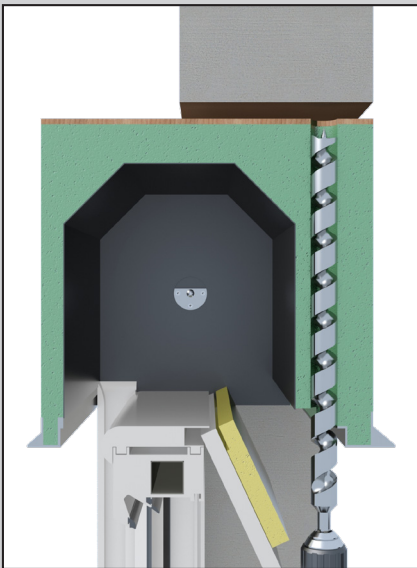


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**Drills**  
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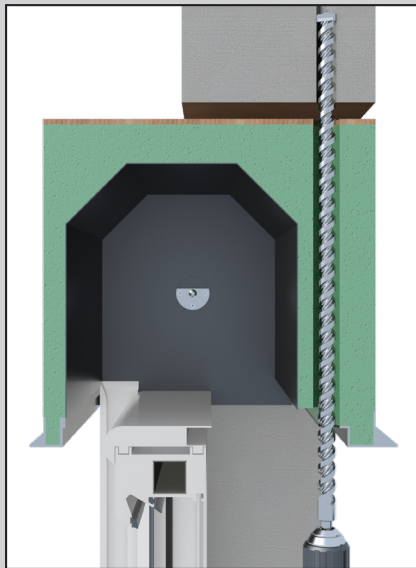
Installation instruction



**Step 1**

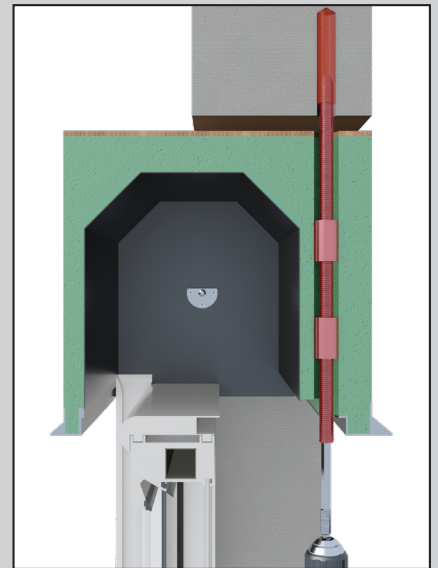
Open the bottom board and create a hole with a long drill up to the lintel.

to the video



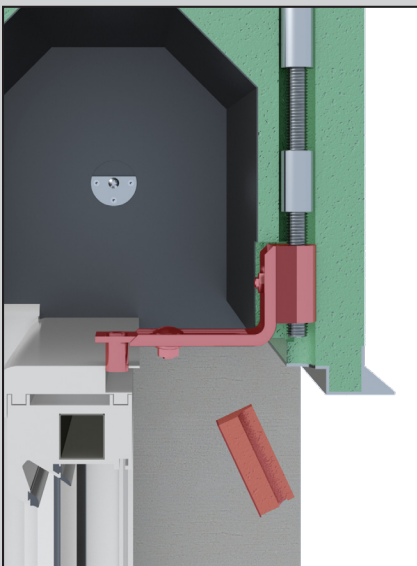
**Step 2**

Drill at least 125 mm with a long drill into the lintel beam. Adjust the RK-Screw Element consisting of a threaded bolt and a threaded bolt with drive to the to the appropriate length.



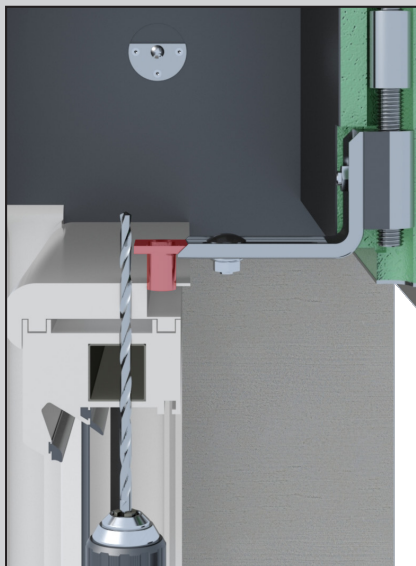
**Step 3**

Push upwards the reaction cartridge with RK-Screw Element and crush it. Screw in the RK-Screw Element from below so that the glue mixes. Let the glue dry (see enclosed information from the manufacturer).



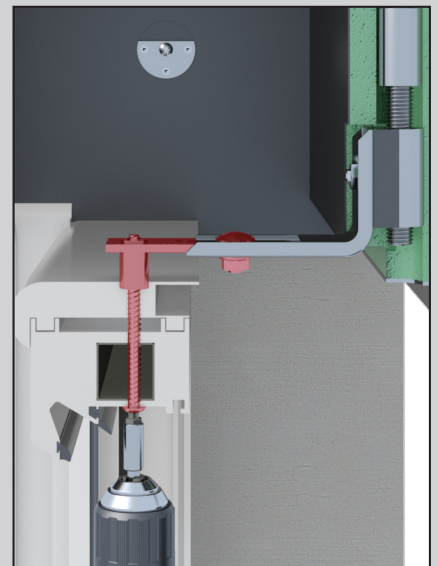
**Step 4**

Cut free and fix the connecting sleeve to the RK-Screw Element. Screw the adjustable connection element to it.



**Step 5**

Drill through the window frame and place the receiving sleeve of the adjustable connecting element over the hole.



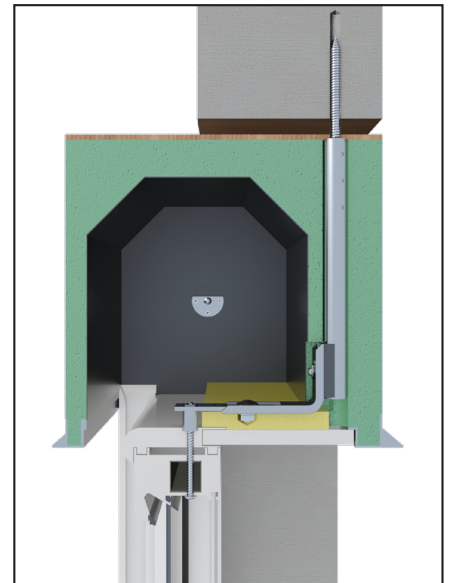
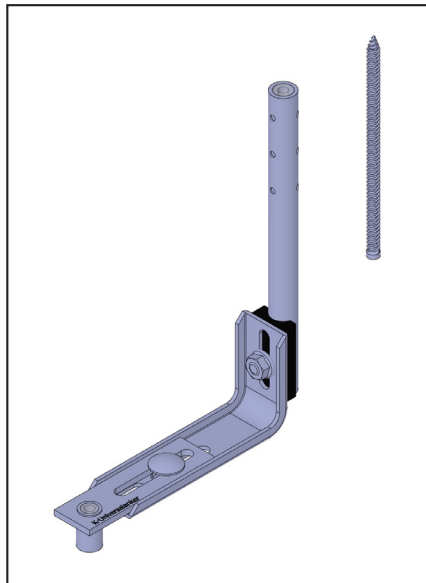
**Step 6**

Screw a  $\varnothing 7.5$  mm Window Mounting Screw through the window frame into the receiving sleeve. Shorten the Window Mounting Screw if necessary. Tighten the nut of the adjustable connecting element.

6.7. RK-Fixed-DS - Direct Screw

6

- for simple window mounting at the top in the roller shutter box
- suitable for all box systems
- mounting position is cut free by drilling
- can be pre-mounted by the box manufacturer
- transfers forces (wind load, opening and closing of casements) directly to the internal concrete ceiling or lintel
- with thermal separation
- fixed directly to the lintel with a window mounting screw



RK-Fixed-DS-7,5-285

Article-No.	Article name [mm] Screw diameter - sleeve length	Units
K-40020870	RK-Fixed-DS-7,5-205	5
K-40020880	RK-Fixed-DS-7,5-245	5
K-400210	RK-Fixed-DS-11,5-245	5
K-40021010	RK-Fixed-DS-7,5-285	5
K-40021014	RK-Fixed-DS-11,5-285	5
<b>Additional sizes are available on request.</b>		

Associated products

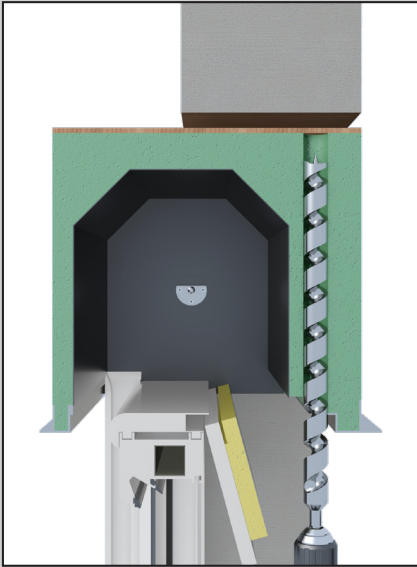


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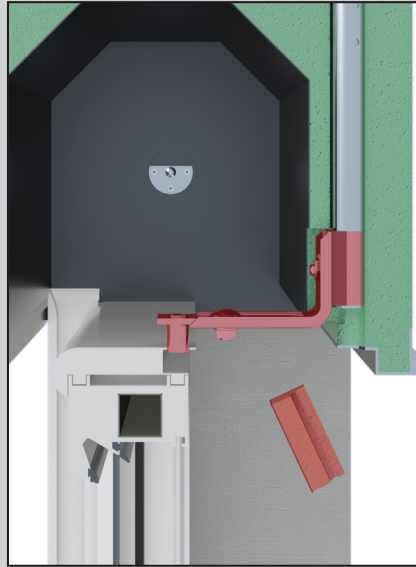
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Installation instruction



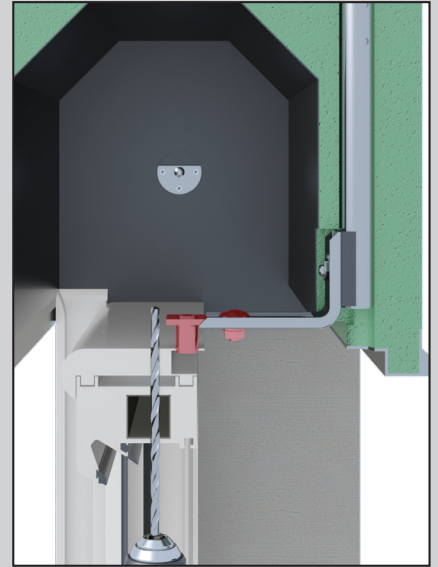
**Step 1**

Open the floorboard and create a hole with a long drill up to the lintel.



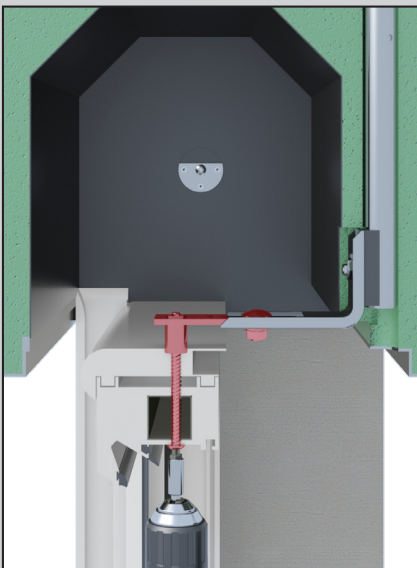
**Step 2**

Cut free so that the RK-Fixed-DS can be placed.



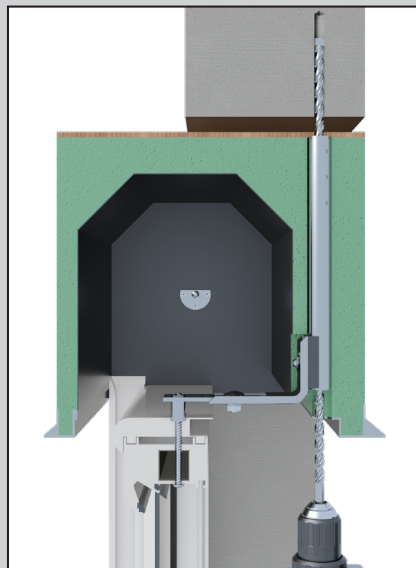
**Step 3**

Drill through the window frame and place the receiving sleeve of the adjustable connecting element over the hole.



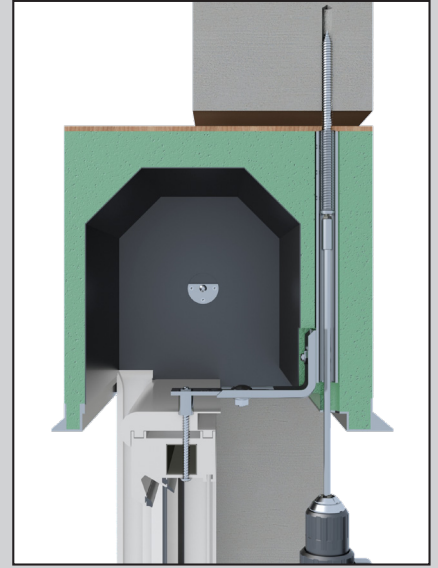
**Step 4**

Screw a  $\varnothing 7.5$  mm Window Mounting Screw through the window frame into the receiving sleeve. The Window Mounting Screw can be shortened if necessary. Tighten the nut of the adjustable connecting element.



**Step 5**

Use a long drill to drill through the pipe into the lintel; at least 100 mm deep.



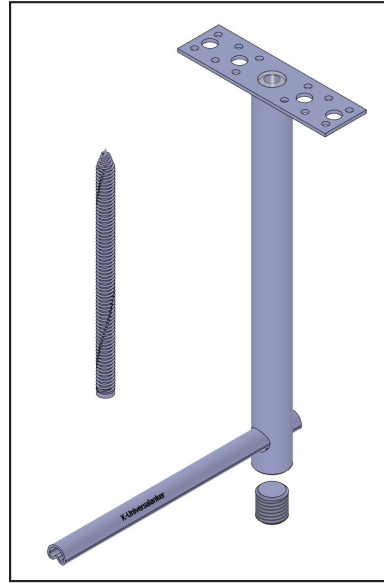
**Step 6**

Screw the Window Mounting Screw through the pipe into the lintel. The screw must be screwed in at least 50 mm in the lintel.

**6.8. RK-Fixed-DS-RA - Direct Screw External Revision**

6

- is pre-mounted by the box manufacturer
- for simple window mounting upwards in case of external blind systems and the external inspection of roller shutter boxes
- mounting position is cut free by drilling
- transfers forces (wind load, opening and closing of casements) directly to the internal concrete ceiling or lintel
- with thermal separation
- fixed directly with Window Mounting Screw

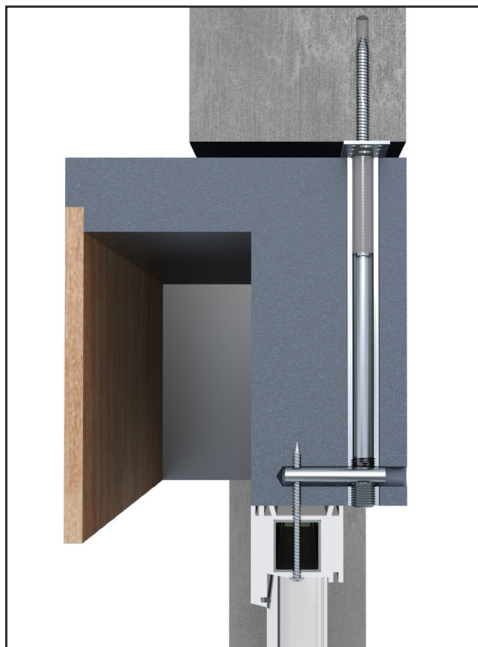


Delivery status, Knelsen

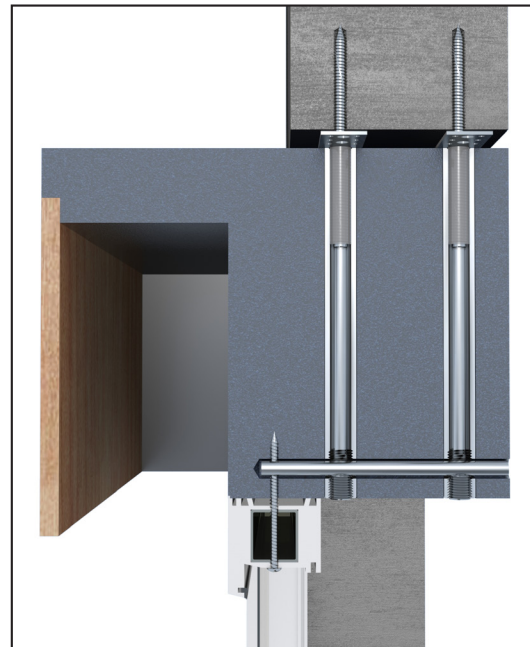


Preassembled

Article-No.	Article name [mm]	Units
K-400256	RK-Fixed-DS-RA-25x280	5
Scope of delivery per item: 1x tube Ø25,0x280 + mounting plate-35x125, 1x V-Static Tube-200, 1x Window Mounting Screw 11,5x180, 1x grub screw-M20x20. Other box heights are available upon request.		



Installation finished



RK-Fixed-DS-RA twice

**Associated products**

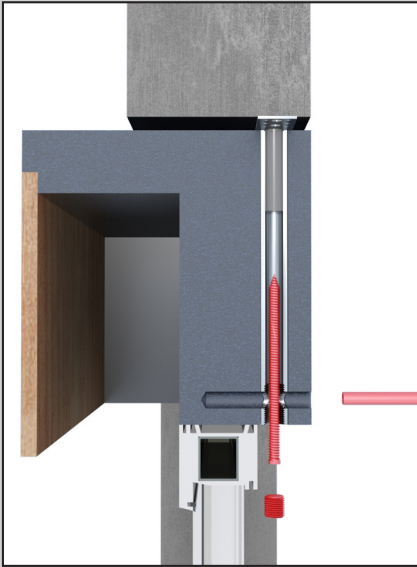


Bit-Hexagon Socket  
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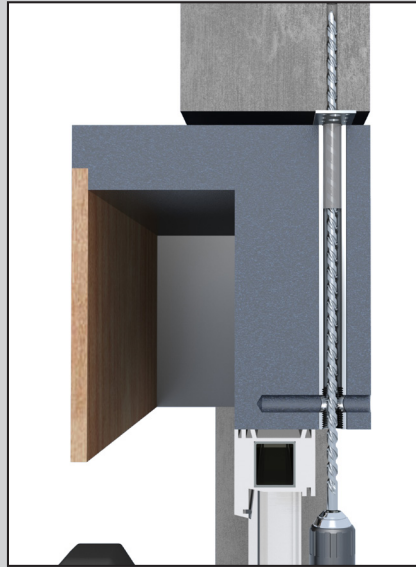
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Installation instruction



**Step 1**

Remove grub screw, V-Static Tube and Ø11.5 mm Window Mounting Screw (marked in red)



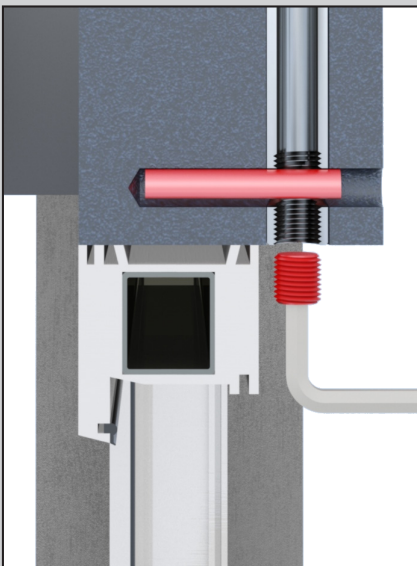
**Step 2**

Use a Ø10.0 mm drill to drill at least 100 mm into the lintel.



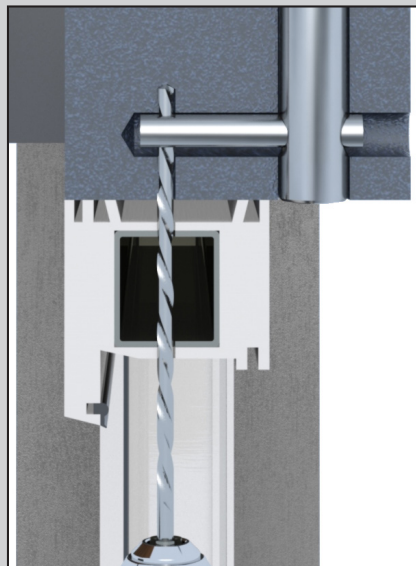
**Step 3**

Screw Ø11.5 mm Window Mounting Screw into the lintel. The screw must be screwed in at least 50 mm in the lintel.



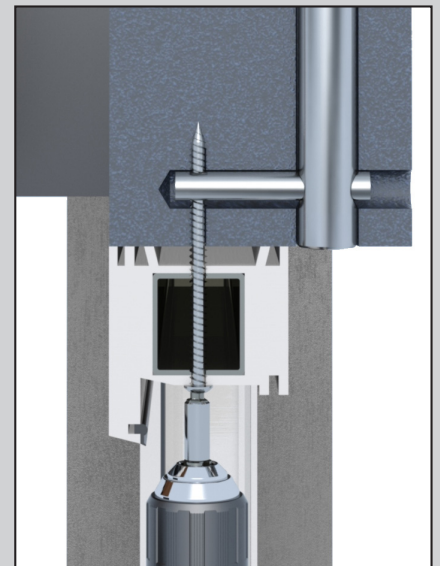
**Step 4**

Insert the V-Static Tube with the notch downwards. Secure the V-Static-Tube with grub screw.



**Step 5**

Drill through the window frame and the V-Static Tube.



**Step 6**

Screw the Ø7.5 mm Window Mounting Screw through the window frame and the V-Static Tube.

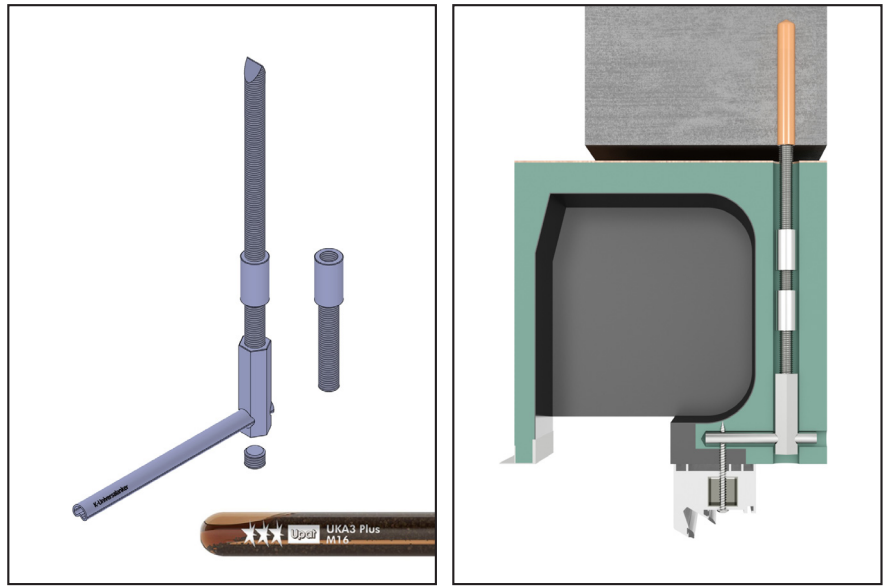
to the video



**6.9. RK-Fixed-RA - External Revision**

- for upward mounting in case of external blind systems and the external inspection of roller shutter boxes
- simple and quick mounting, even for retrofitting
- mounting position is cut free by drilling
- transfers forces (wind load, opening and closing of casements) directly to the internal concrete ceiling or lintel

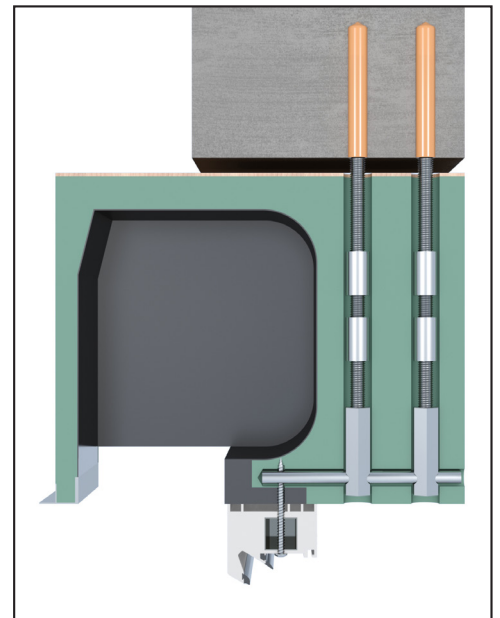
6



RK-Fixed-RA-16x400

Article-No.	Article name [mm]	Units
K-400360	RK-Fixed-RA-16x400	10
K-400362	RK-Fixed-RA-16x460	10

Scope of delivery per item: 3-4x threaded bolt: 1x M16 with shovel, 1x M16 with drive, 1-2x M16x100, 2-3x connecting nut M16x40, 1x V-Static Tube Ø15x200, 2x grub screw M16x12, 1x hexagon SW22 M16x80, 1x reaction cartridge M16



RK-Fest-RA-16x400 twice

**Associated products**



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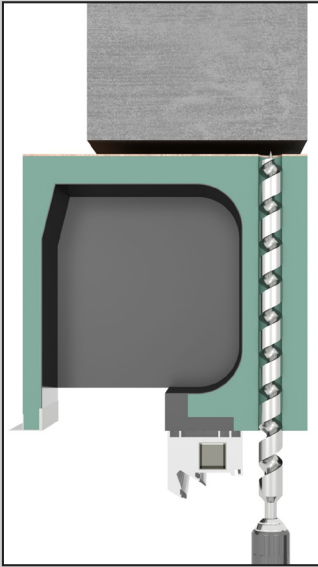


Bit Holder  
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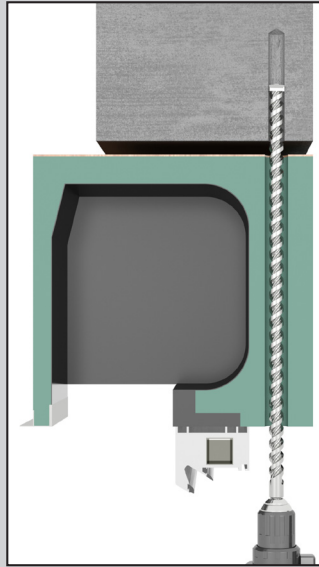
Drills  
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Installation instruction



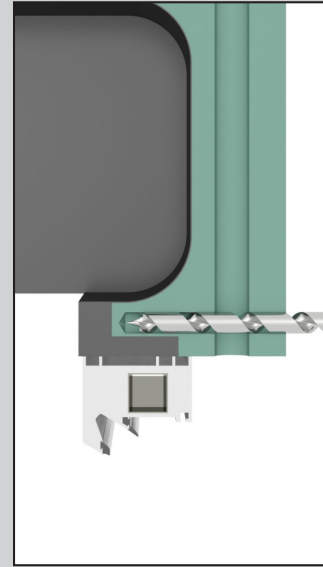
**Step 1**

Create a hole with a Ø26.0 mm drill up to the lintel.



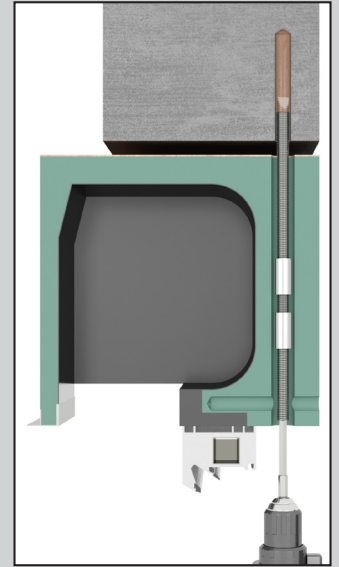
**Step 2**

Use a Ø18.0 mm bit to drill at least 125 mm into the lintel.



**Step 3**

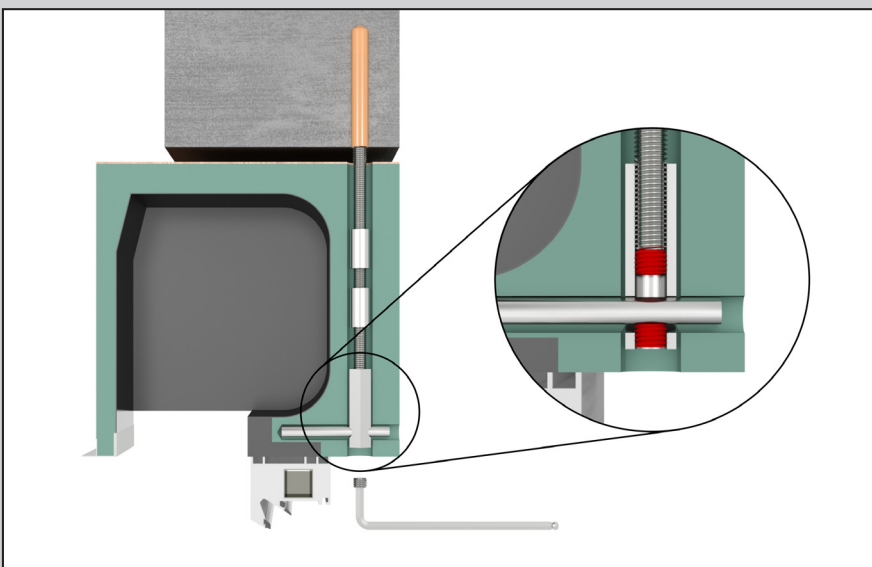
Drill with a Ø16.0 mm drill bit.



**Step 4**

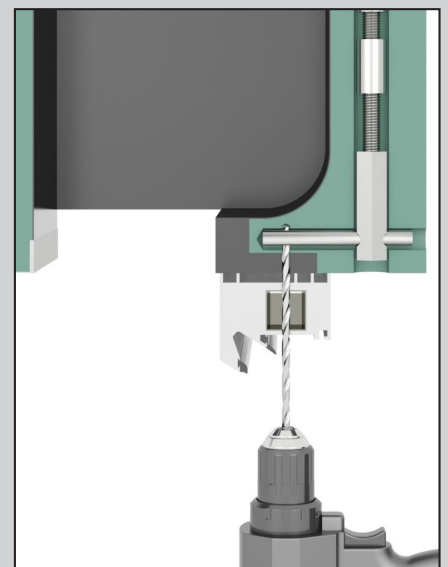
Push the reaction cartridge with the RK-Screw Element upwards and crush. Screw in the RK-Screw Element from below so that the glue mixes. Let glue dry (see enclosed information from the manufacturer).

to the video



**Step 5**

Screw the hexagon nut (M16x80) to the appropriate height and lock it with the first grub screw. Insert V-Static Tube with notch downwards and secure it with the second grub screw.



**Step 6**

Drill through the window frame and the V-Static Tube. Then screw the Ø7.5 mm Window Mounting Screw through the window frame and the V-Static Tube.

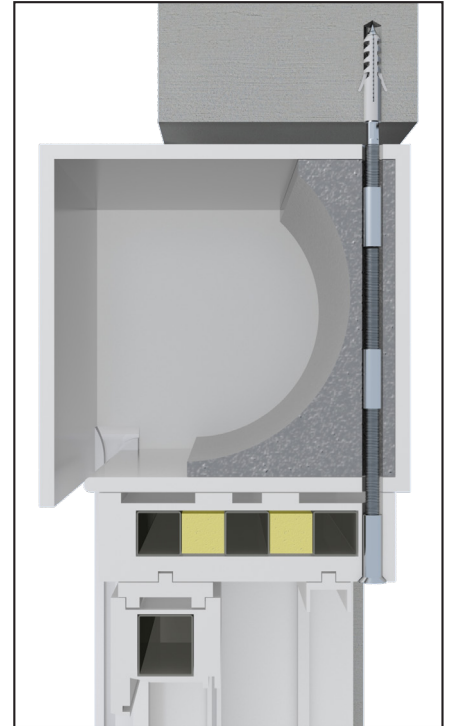
6.10. RK-Fixed-HST - Lift-Up Sliding Door

- for upward mounting in the case of lift-up sliding doors with roller shutter box
- mounting position is cut free by drilling
- simple and quick mounting, also for retrofitting

6



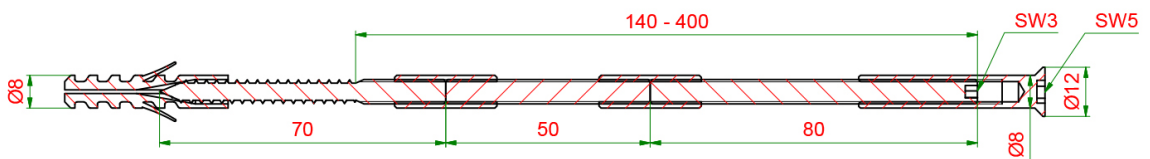
RK-Fixed-HST-M10



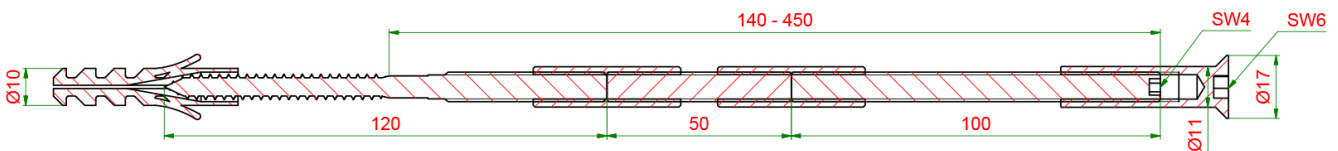
RK-Fixed-HST-M10

Article-No.	Article name [mm]	min. edge distance [mm]	max. tensile load [kg]	Units
K-405053-0	RK-Fixed-HST-M6	40	60	605
K-40505305	RK-Fixed-HST-M8	50	110	1105
K-405053-1	RK-Fixed-HST-M10	60	150	1505

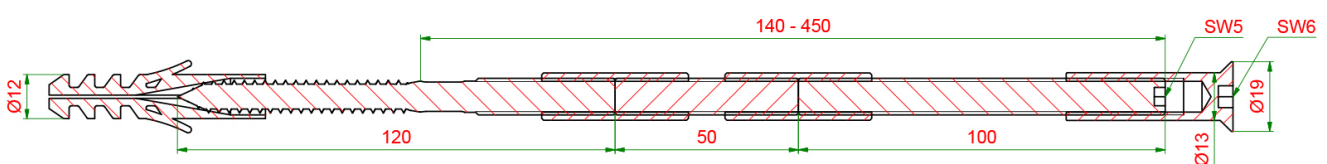
RK-Fixed-HST-M6



RK-Fixed-HST-M8

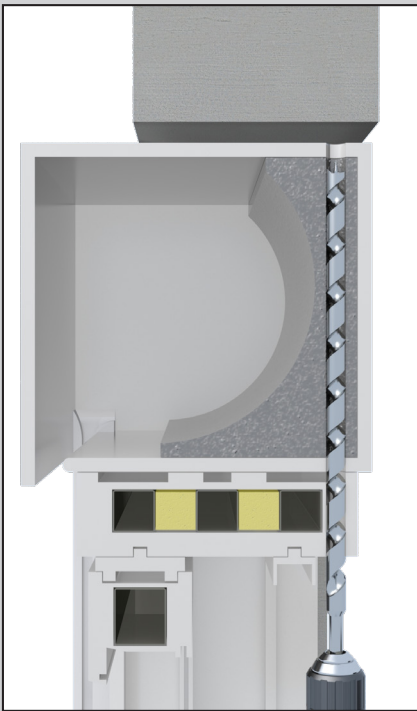


RK-Fixed-HST-M10



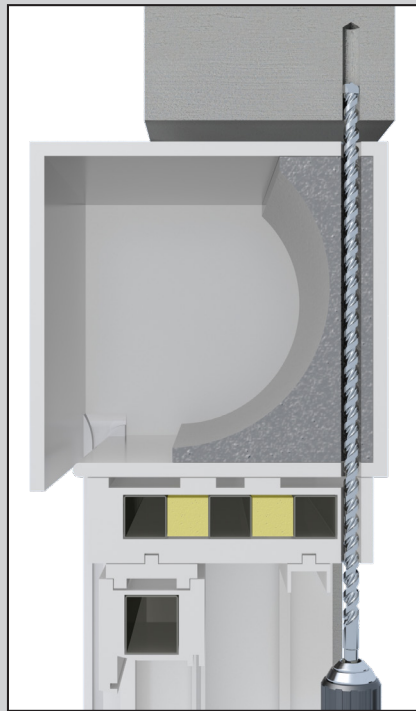
Installation instruction

6



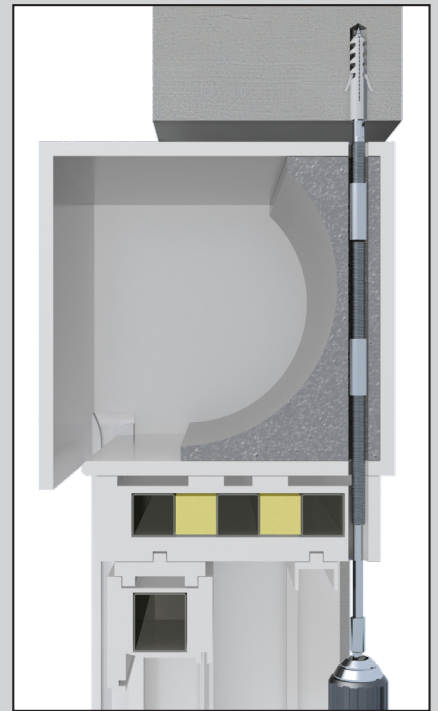
**Step 1**

Drill to the top.  
Bore  $\varnothing$  of frame =  $\varnothing$  of sleeve



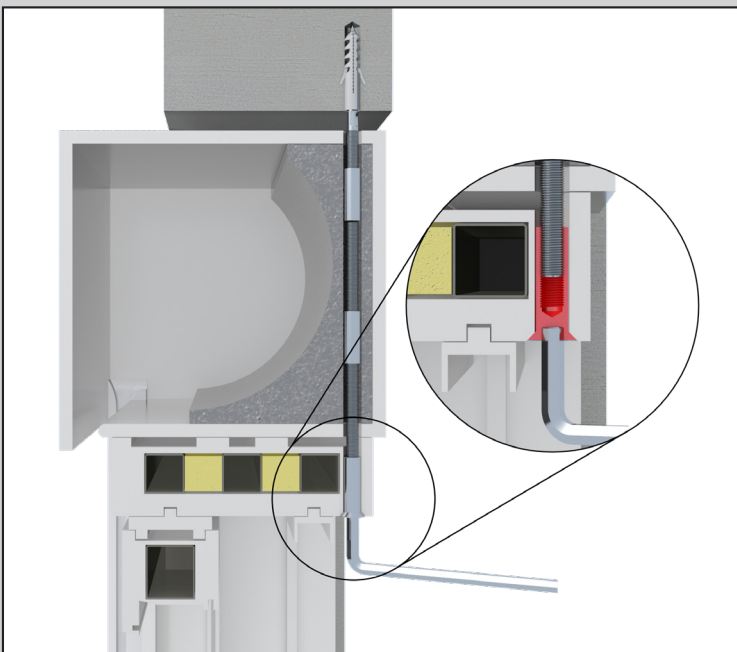
**Step 2**

Drill through the frame into the lintel. Bore  $\varnothing$  of lintel =  $\varnothing$  of dowel



**Step 3**

Arrange the threaded rods to the required length. Place the dowel onto the hanger bolt and insert it into the drilled hole. Screw in the threaded rod from below.



**Step 4**

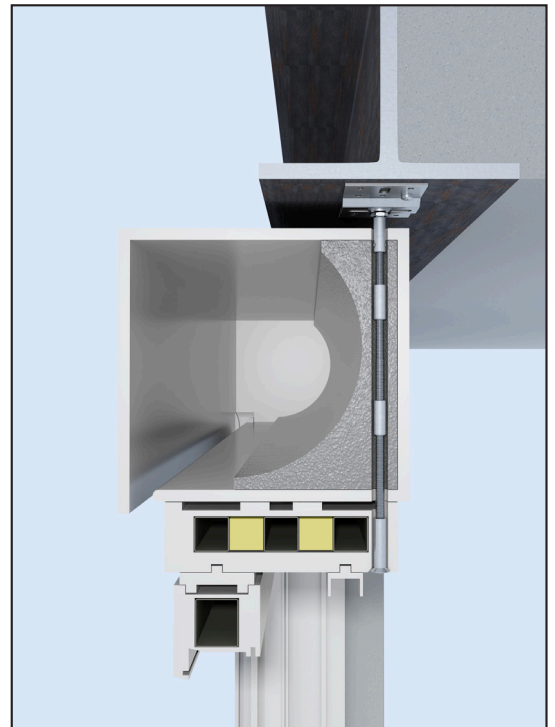
Countersink the bore in the frame to 45°. Screw the sleeve to the threaded rod and set it to the desired height.

to the video

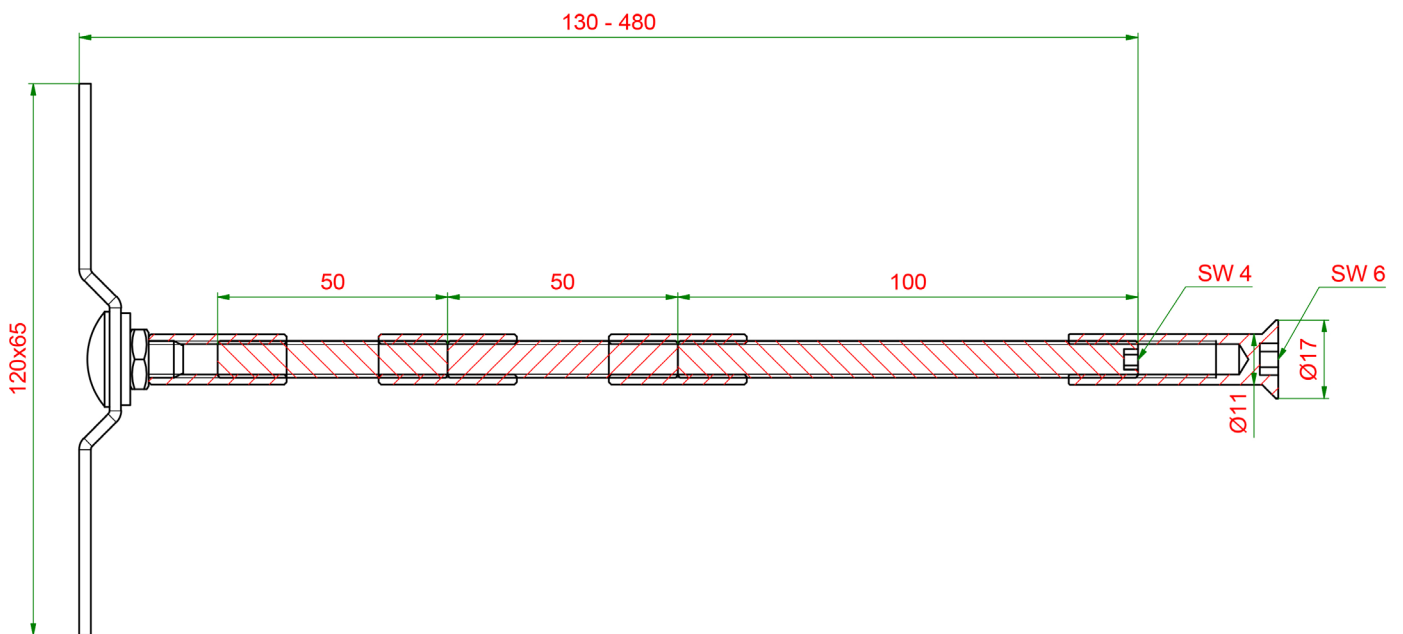


6.11. RK-Fixed-HST-P

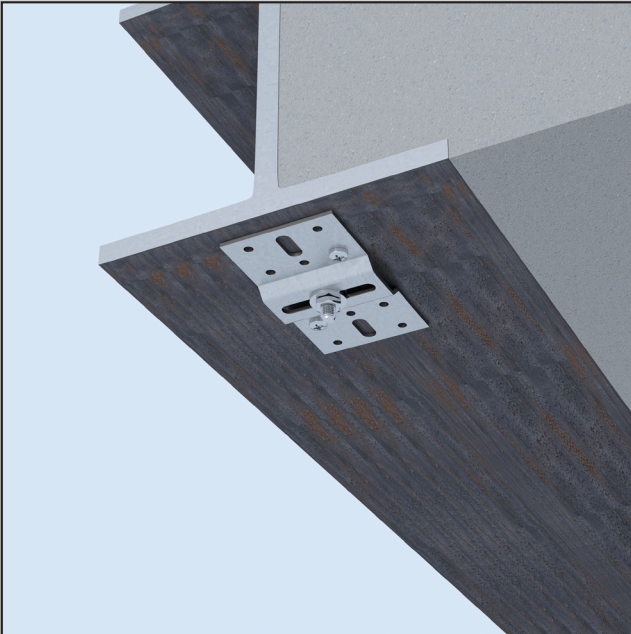
- for upward mounting in the case of lift-up sliding doors with roller shutter box
- mounting position is cut free by drilling
- simple and quick fastening to steel girders and concrete lintels



Article-No.	Article name [mm]	Units
K-40505410	RK-Fixed-HST-P-M8	5
Scope of delivery per item: 1x connection plate, 1x connection thread-M8, 3x threaded bolt: 1x M8x50, 1x M8x100, 1x M8x150, 1x threaded pin M8 with drive, 1x sleeve nut M8, 4x connection nut M8		

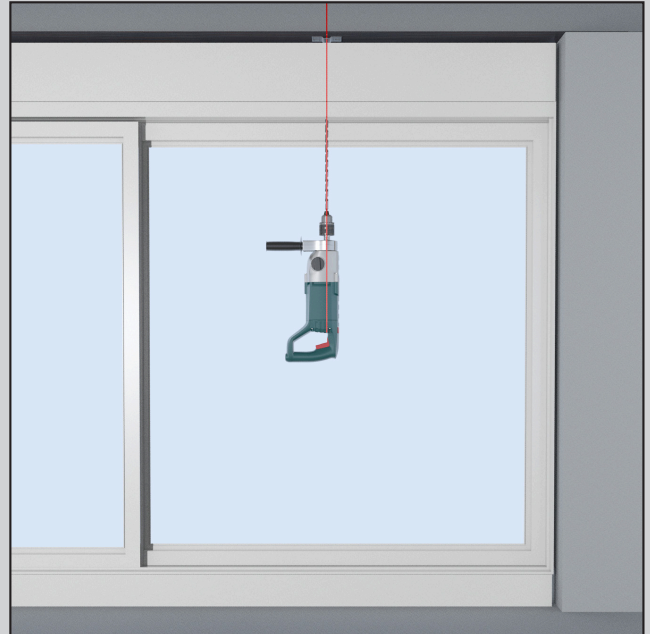


Installation instruction



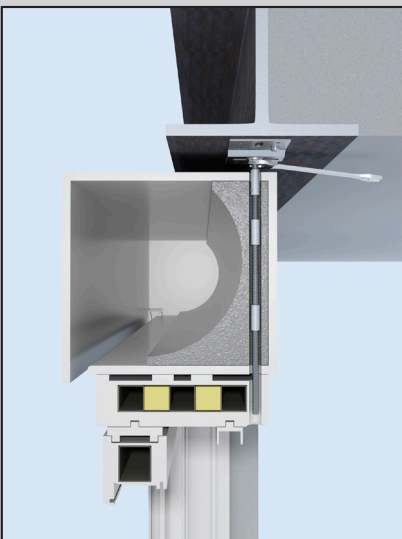
**Step 1**

Before inserting the lift-slide door, determine the fixing positions. Pre-drill through the connecting plate into the steel beam and fasten with self-tapping screws.



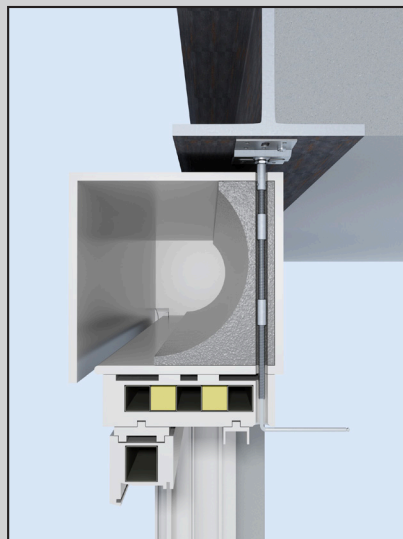
**Step 2**

Drill through the HST frame and roller shutter box to the connection plate. Drill  $\varnothing$  frame =  $\varnothing$  sleeve. Lasers or other aids make it easier to find the drilling position and keep the drilling direction. Drill the hole with a countersink (45°) so that the sleeve nut sits flush later.



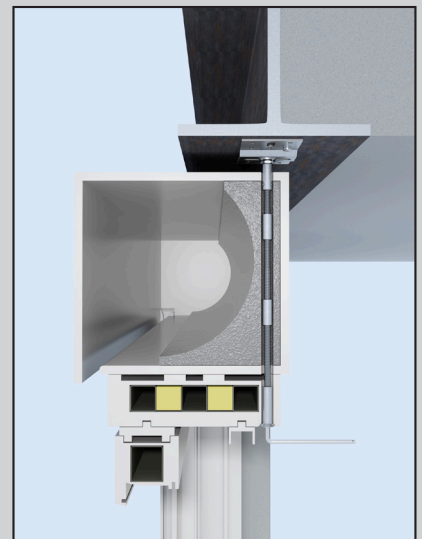
**Step 3**

Screw the RK screw element together to the appropriate length, insert it into the hole and screw it to the connection plate using the carriage bolt. Secure the setting in the slotted hole using the counter nut.



**Step 4**

Fasten the RK screw element upwards.



**Step 5**

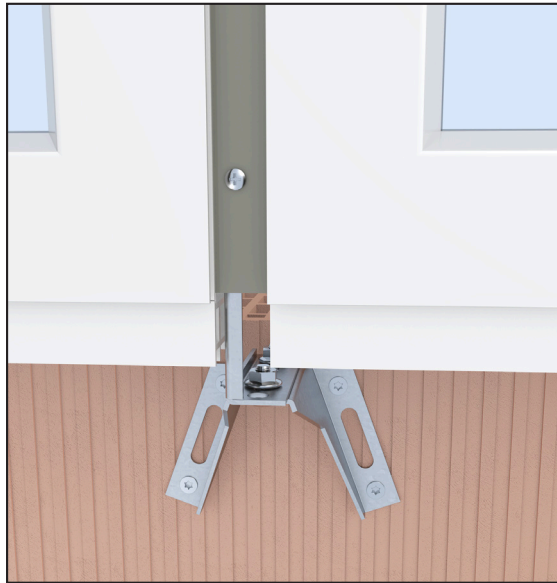
Insert the sleeve nut and align the HST frame upwards.

# Screwing of Window Elements

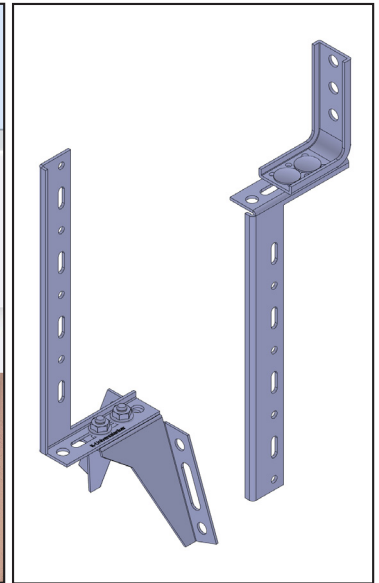
## 7.1. KP-Holder - Coupling Profile Holder

- for the simple mounting of coupling profiles
- suitable for all systems
- various combination options with all K-Universal anchors
- upper mounting is possible as a floating bearing

7



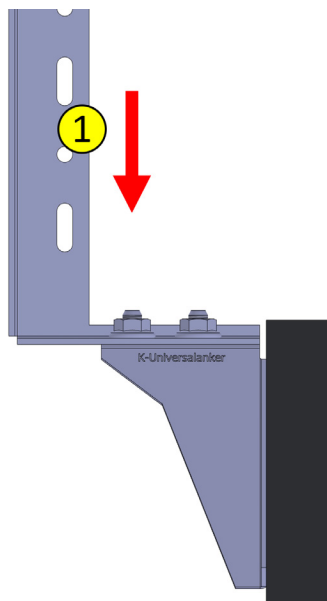
KP-Holder with WS-Mounting Bracket



KP-Holder-100x270x2,5 + mounting

Article-No.	Article name [mm] length 1 x length 2 x material thickness	Units
K-405051	KP-Holder-100x270x2,5	10
K-405052	KP-Holder-100x270x2,5 + mounting	10

Scope of delivery for K-405052: 20x KP-Holder-100x270x2,5, 40x Flange Nut M8, 40x Carriage Bolt M8x16, lower mounting: 5x WS-Bracket 65x110x2,0, upper mounting: 5x FMW 65x95x2,5



### Installation instruction

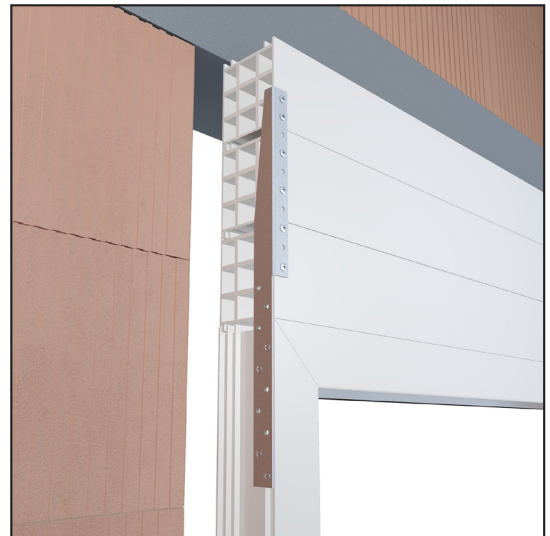
The edged, long shank can be screwed to the coupling profile laterally or from the front and thus enables the retrofitting of the KP-Holder to the coupling profile.

**ift-Rosenheim verification number**  
Tested for loads in the window layer:  
11-003442-PR06 PB-K26-09-de-01

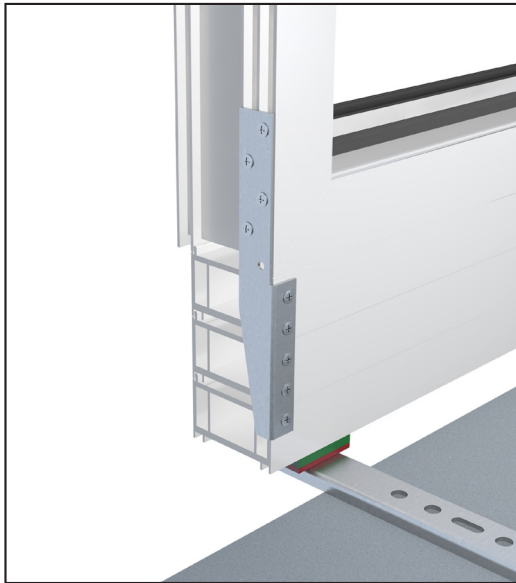
	maximum load / overhang A
1	55 mm
	237 kg

## 7.2. BAP-Angle

- reinforces the connection between the window frame and the connection profile



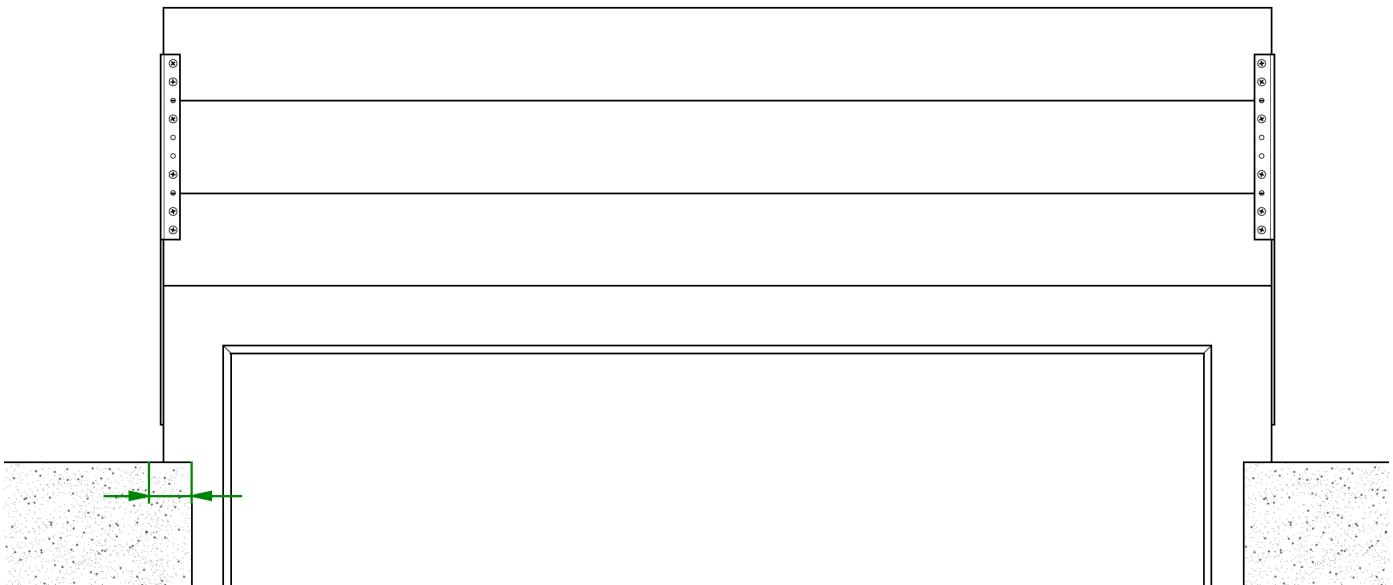
BAP-Angle 400x2,5



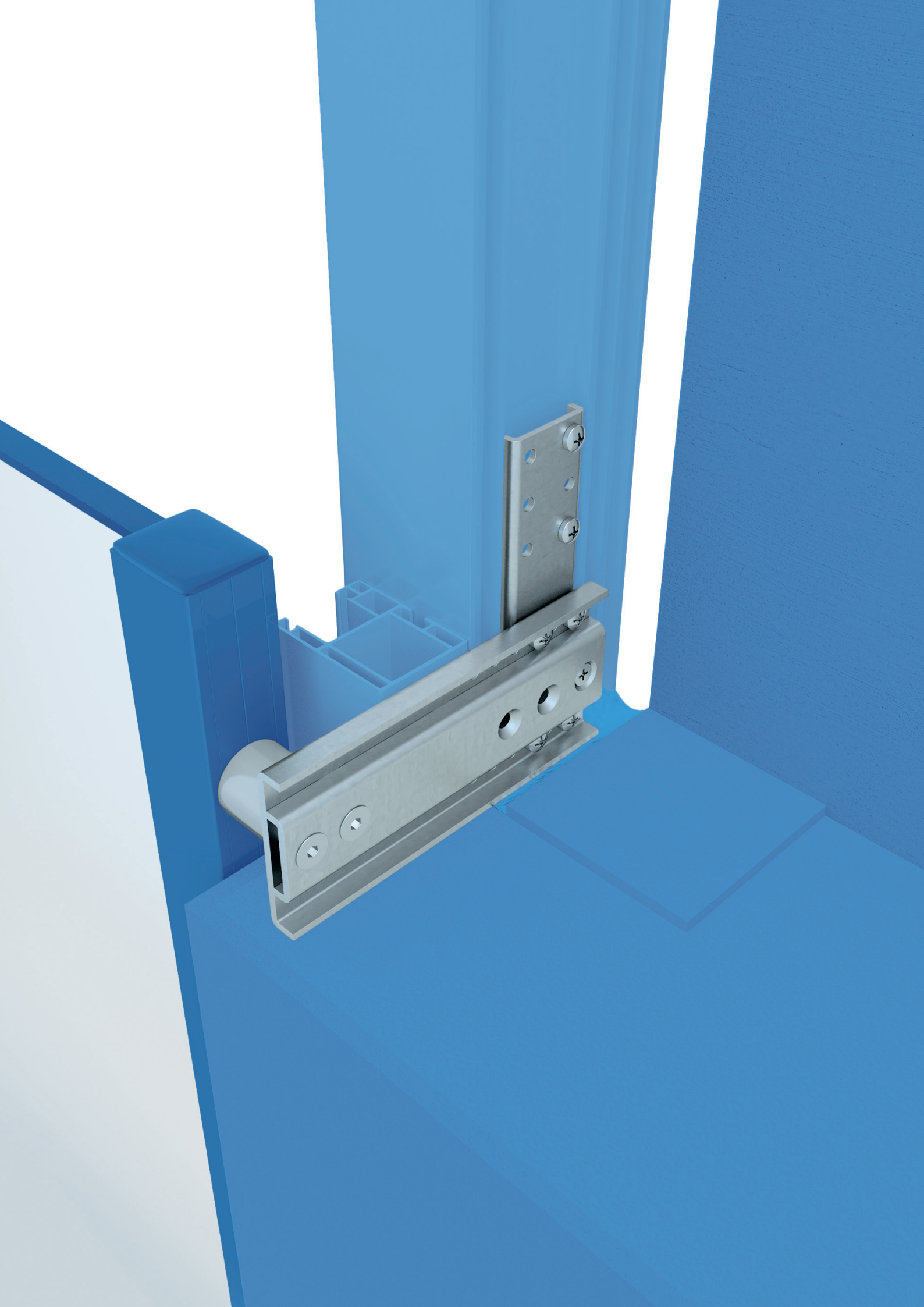
BAP-Angle 200x2,0

7

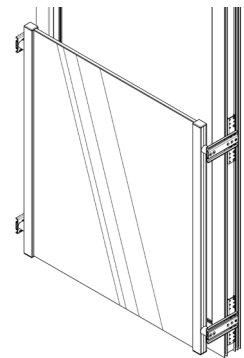
Article-No.	Article name [mm] length x material thickness	Units
K-405190	BAP-Angle 110x1,5	50
K-405191	BAP-Angle 200x2,0	50
K-405192	BAP-Angle 400x2,5	50



According to the installation guide, windows must be over-insulated.

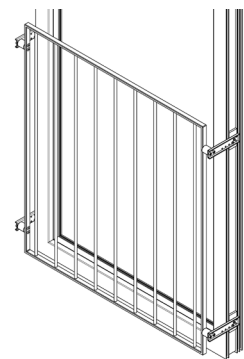


# AS-Holder for Fall Protection



## AS-Holder SL – Gutmann Fall Protection

8.1.	AS-Holder SL – Gutmann Fall Protection.....	112
8.2.	AS-Additional Profile.....	113



## AS-Holder

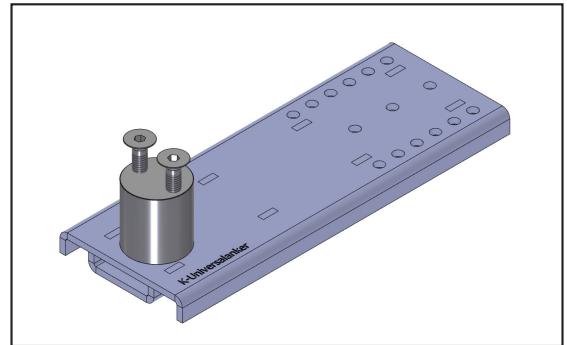
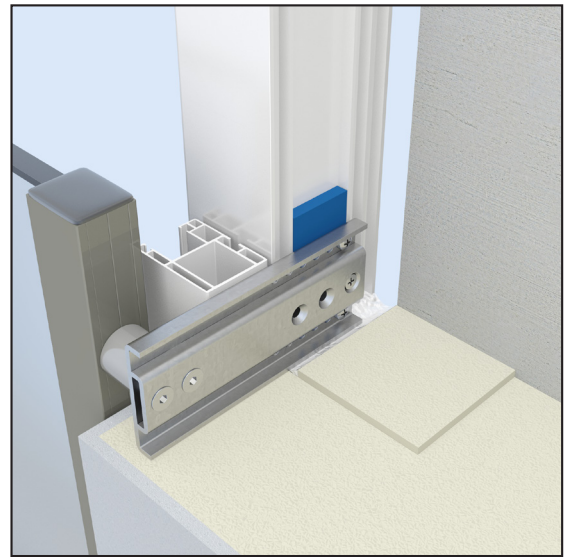
8.3.	AS-Holder.....	114
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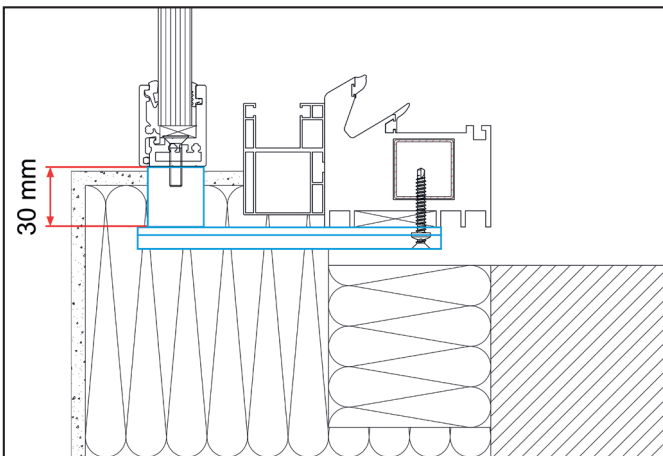
### 8.1. AS-Holder SL – Gutmann Fall Protection

- fastening of System Gutmann FPS
- enables use of roller shutter guides, fly screens etc.
- window can be over-insulated by up to 30 mm (RAL guidelines)
- suitable for wooden and plastic window systems
- load transfer per fixing point: 63 kg

8



AS-Holder SL



Diagram, installed state

#### Fastening to the plastic window

Article-No.	Article name [mm] length x distance piece	Units
K-130073	AS-Holder SL-125-30	20
K-130075	AS-Holder SL-150-30	20
K-130077	AS-Holder SL-175-30	20

Scope of delivery per piece: 1x SL-Profile, 1x spacer Ø28x30, 2x Drilling Screw Ø4,8x32-LK, 1x Drilling Screw Ø4,8x32-SK, 2x Countersunk Screw M6x25, 2x Countersunk Screw A2-70-M6x25

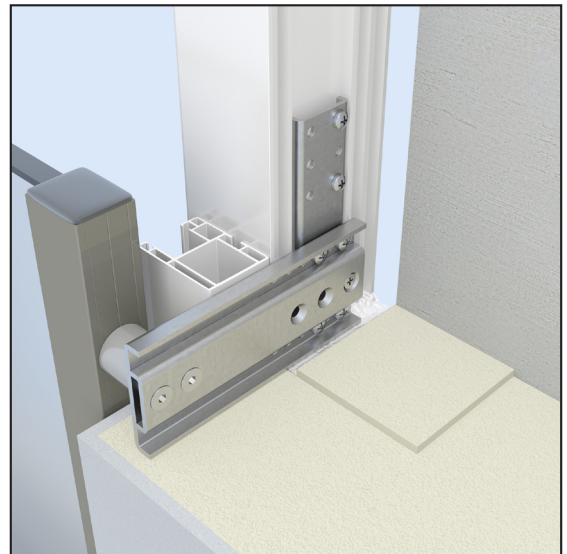
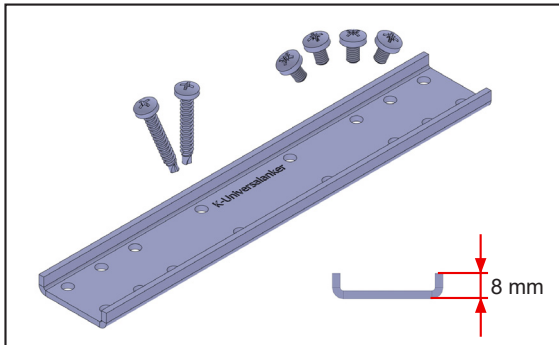
#### Fastening to the wood / wood-aluminium-window

Article-No.	Article name [mm] length x distance piece	Units
K-13007800	AS-Holder SL-125-30 - Wood	20
K-13007810	AS-Holder SL-150-30 - Wood	20
K-13007820	AS-Holder SL-175-30 - Wood	20

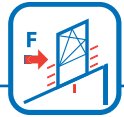
Scope of delivery per piece: 1x SL-Profile, 1x spacer Ø28x30, 2x SPAX-A2-LK-5,0x50, 1x SPAX-A2-SK-5,0x50, 2x Countersunk Screw M6x25, 2x Countersunk Screw-A2-70-M6x25

## 8.2. AS-Additional Profile

- increases the load bearing capacity of AS-Brackets
- load transfer per fixing point:  
AS-Bracket SL + AS-Additional Profile: 109 kg



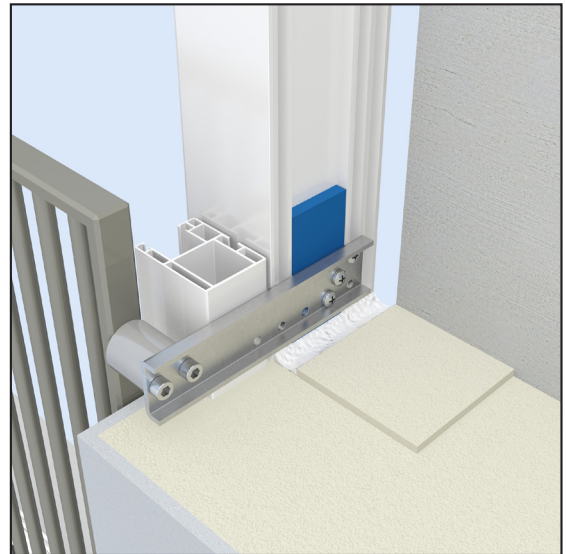
Article-No.	Article name [mm]	Units
K-130090	AS-Additional Profile 200x2,5	20
Scope of delivery per item: 1x AS-Additional Profile, 4x Thread forming screw M5x8-LK, 2x Drilling Screw 4,8x32-LK		



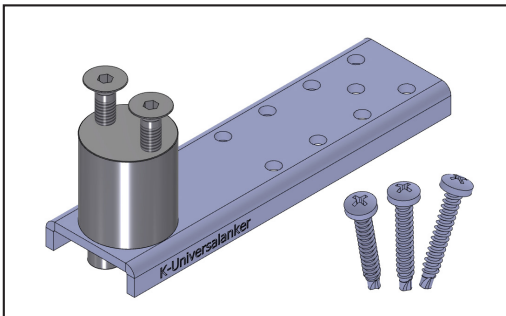
### 8.3. AS-Holder

- allows the use of roller shutter guides, fly screens etc.
- window can be over-insulated up to 30 mm (RAL guidelines)
- suitable for all systems (aluminium, wood, plastic)
- suitable for the attachment of fall protection systems
- tested according to ETB-guidelines (ift-Rosenheim) verification number 17-001190-PR02

8



AS-Holder 150-30



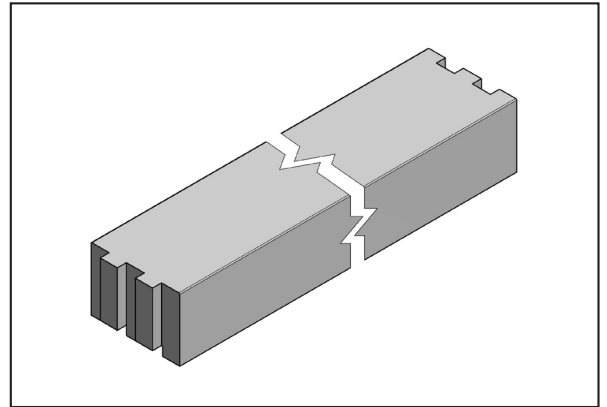
Article-No.	Article name [mm] length x distance piece	Units
K-130053	AS-Holder 125-30	50
K-130055	AS-Holder 150-30	50
K-130057	AS-Holder 175-30	50
Scope of delivery per item: 1x U-Profile, 1x spacer Ø28x30, 3x Drilling Screw Ø4,8x32, 2x Cylindrical Screw M6x16, 2x Countersunk Screw M6x25		



# Junction Profiles

## 9.1. AnPro - Junction Profile

- screwable core
- individual production for all blind frame and ground sill systems
- length: 1,20 metres  
can be modified arbitrarily by plug system
- proved for the fall-proof window mounting by ift-Rosenheim: 18-003796-PR05
- **other dimensions and millings on request**



### Technical data

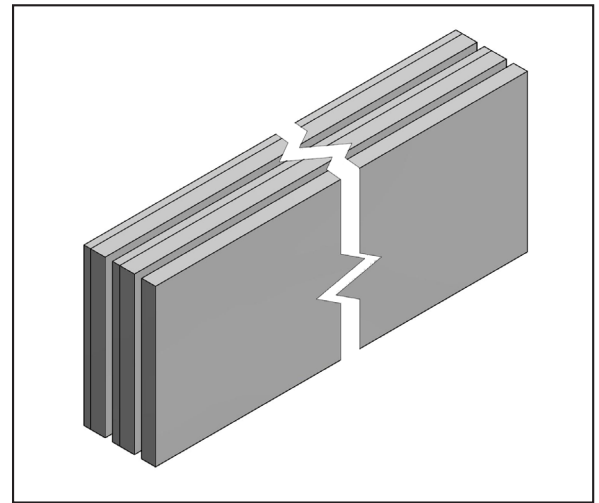
- compressive strength: 20 kN/cm<sup>2</sup>
- screws-extraction values: 2,65 kN
- core density: 0,39 g/cm<sup>3</sup>
- U-value: approx. 1,0 W/(m<sup>2</sup>K)
- water absorption in accordance with EN ISO 62: 4,5%
- SD-value: <156 m
- fire behaviour: class B in accordance with DIN EN ISO 4102-1

Article-No.	Article name [mm] width x height x length	Illustration	Cross section
K-406159	K-AnPro-49x35x1200, white		
K-406159-001	K-AnPro-49x35x1200, white		
K-406159-002	K-AnPro-49x35x1200, white		
K-406159-003	K-AnPro-49x35x1200, white		
K-406159-004	K-AnPro-49x35x1200, white		

Deliverable after 10 working days from receipt of order.

## 9.2. UnPro

- screwable core
- individual production for all blind frame and ground sill systems
- length: 1,20 metres  
can be modified arbitrarily by plug system
- proved for the fall-proof window mounting  
by ift-Rosenheim: 18-003796-PR05
- **other dimensions and millings on request**



9

### Technical data

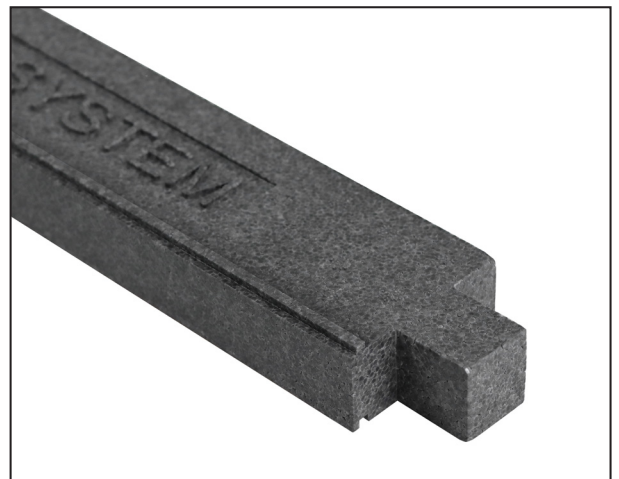
- compressive strength: 20 kN/cm<sup>2</sup>
- screws-extraction values: 2,65 kN
- core density: 0,39 g/cm<sup>3</sup>
- U-value: approx. 1,0 W/(m<sup>2</sup>K)
- water absorption in accordance with EN ISO 62: 4,5%
- SD-value: <156 m
- fire behaviour: class B in accordance with DIN EN ISO 4102-1

Article-No.	Article name [mm] width x height x length	Illustration	Cross section
K-406268	K-UnPro-49x35x1200, white		
K-406276	K-UnPro-49x48x1200, white		
K-406283	K-UnPro-49x73x1200, white		
K-406291	K-UnPro-49x112x1200, white		
K-406299	K-UnPro-49x149x1200, white		

Deliverable after 10 working days from receipt of order.

**9.3. Junction Profile - MTF-System-P**

- connection profile with good screw properties
- solid profile
- good insulating properties
- connector system
- processing without waste



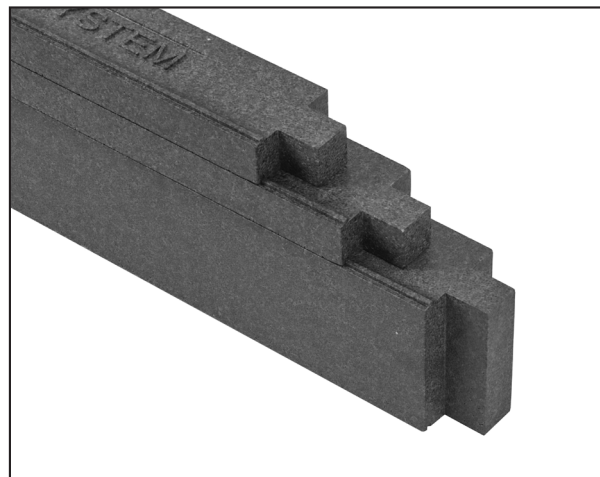
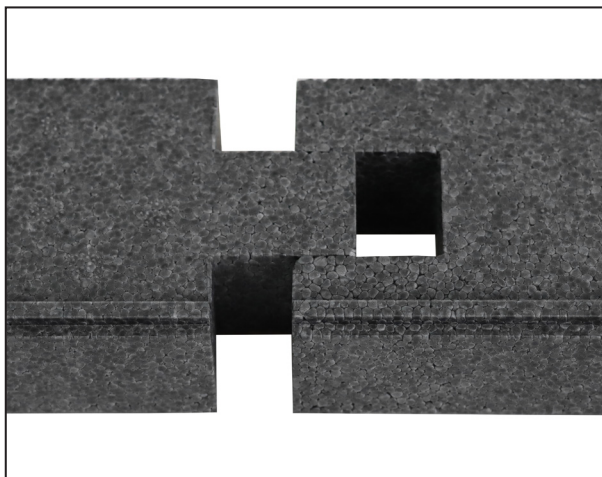
Junction Profile - MTF-System-P

**Technical data**

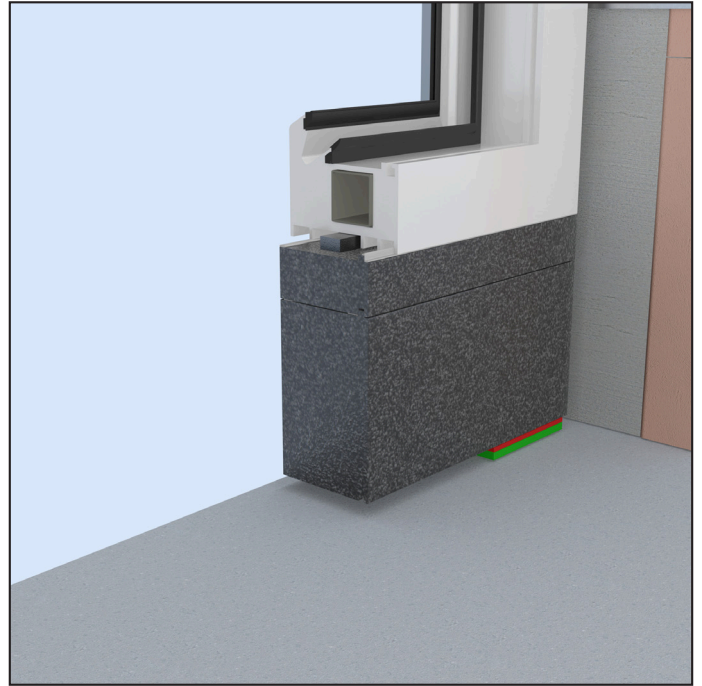
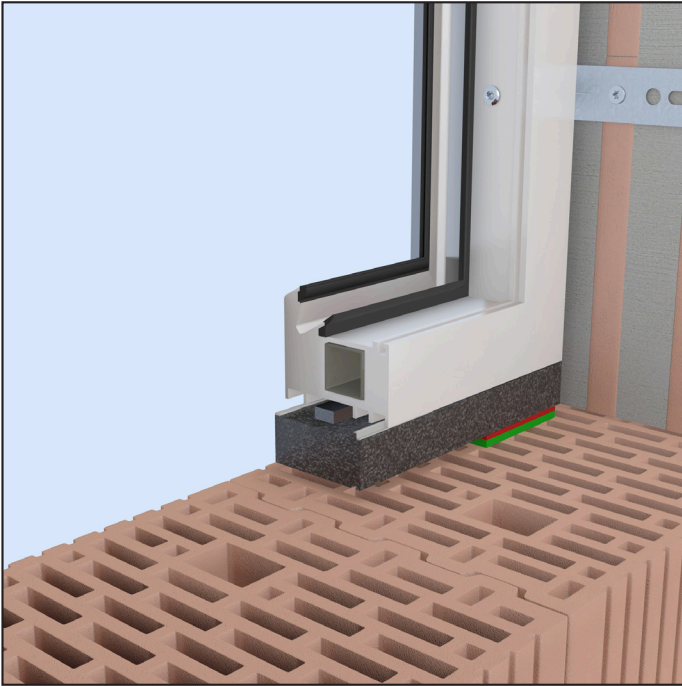
**Data according to DIN EN 13163:2012+A1:2015**

Designation	Value
material	EPS 150 kg/m <sup>3</sup>
thermal conductivity coefficient (U-value)	≤ 0,041 W/mK
compressive strength / Compression strength at 10% deformation	≥ 2500 kPa
bending strength	≥ 750 kPa
dimensional stability	±0,2 %
water absorption through long-term immersion	≤ 1,5 %
fire behaviour	Class E

Article-No.	Article name [mm] width x height	Units
K-40608111	MTF-System-P 67x30	1
K-40608116	MTF-System-P 67x50	1
K-40608121	MTF-System-P 67x100	1
Length: 1200 mm		



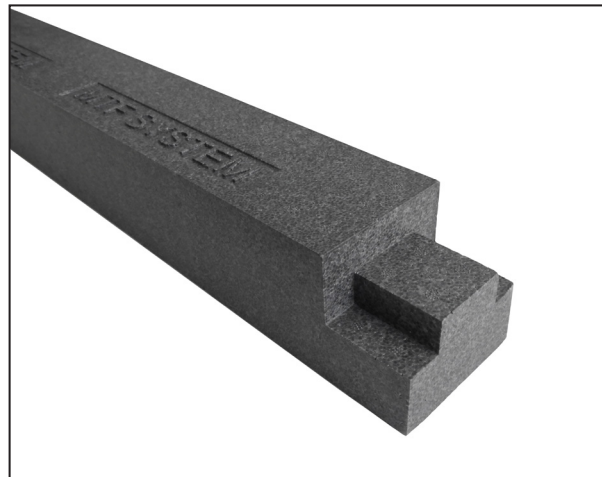
connector system



# Static frames

## 10.1. Static frame - MTF-System

- extension of the masonry for fastening in the insulation layer
- moisture resistant
- high load transfer
- easy and quick to install
- processing without waste
- ift-Rosenheim tested, test number: 20-004372-PR01  
PB-E03-020310-de-02



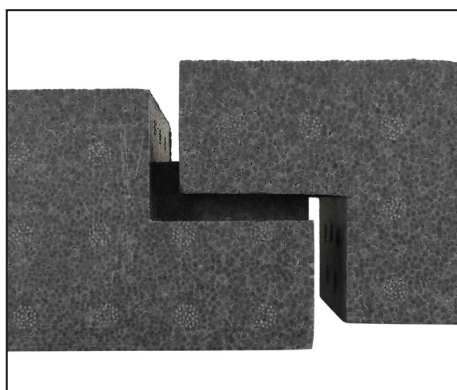
Static frame - MTF-System 85x80

### Technical data

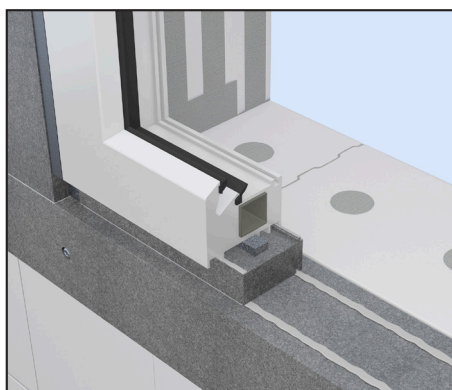
#### Data according to DIN EN 13163:2012+A1:2015

Designation	Value
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thermal conductivity coefficient (U-value)	≤ 0,041 W/mK
compressive strength / Compression strength at 10% deformation	≥ 2500 kPa
bending strength	≥ 750 kPa
dimensional stability	±0,2 %
water absorption through long-term immersion	≤ 1,5 %
fire behaviour	Class E

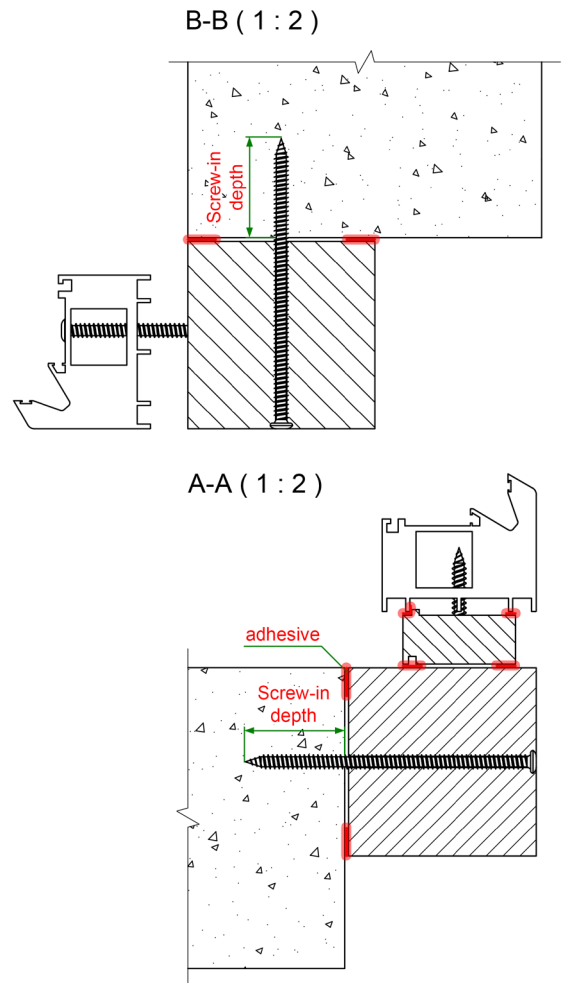
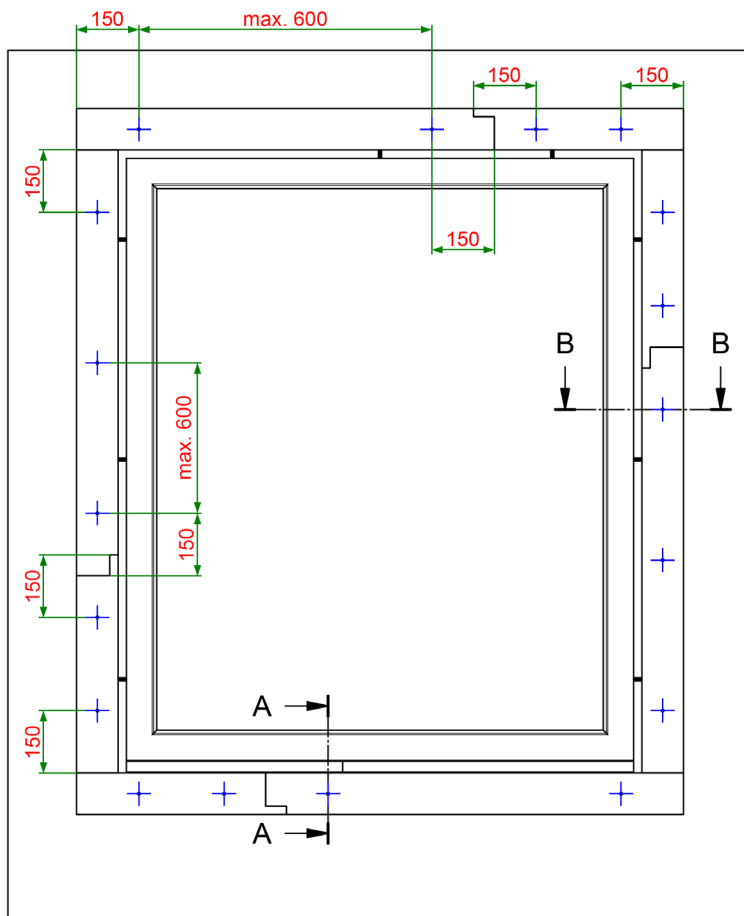
Article-No.	Article name [mm] width x height	Units
K-40608010	MTF-System 85x80	1
K-40608015	MTF-System 85x100	1
K-40608020	MTF-System 85x120	1
Length: 1200 mm		



connector system



## Fixing points frame to masonry



10

### Screw-in depths according to masonry

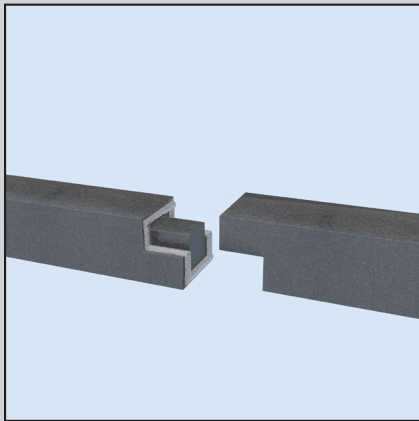
Masonry	Screw-in depth in mm
concrete C20/25	60
solid lime sand brick / solid brick	60
vertically perforated brick / lightweight concrete / pumice / aerated concrete / perforated lime sand brick	100



*The specifications of the stone manufacturer must be followed.*

### Installation instruction

10



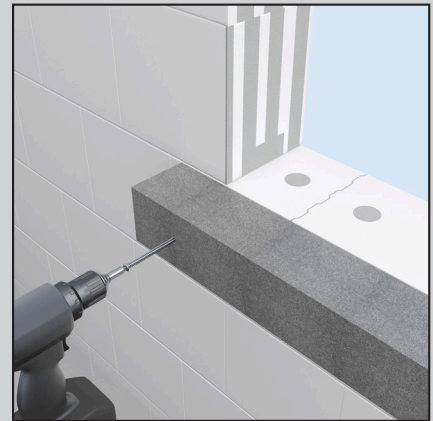
#### Step 1

Depending on the width of the window opening, connect several static frames together. For this purpose, apply the adhesive - MS FLEXI AD Polymer as shown. The static frame can be processed without waste due to the plug-in system.



#### Step 2

Apply adhesive in strips on the adhesive side of the static frame.



#### Step 3

Press the frame with the adhesive to the masonry, align horizontally and vertically. Pre-drill through the frame into the masonry and fasten with Ø7.5 window mounting screws.



#### Step 4

Apply adhesive in a rectangle at the joints of the horizontal and vertical static frames. This ensures that the joints are airtight.



#### Step 5

Apply adhesive to further structural frames and fix them around the window opening to the masonry.



#### Step 6

The window can be fixed directly to the static frame after the adhesive has cured. The curing time of the adhesive is approx. 10 to 24 hours depending on the weather.

### Associated products



**Window Mounting Screws**  
page 134



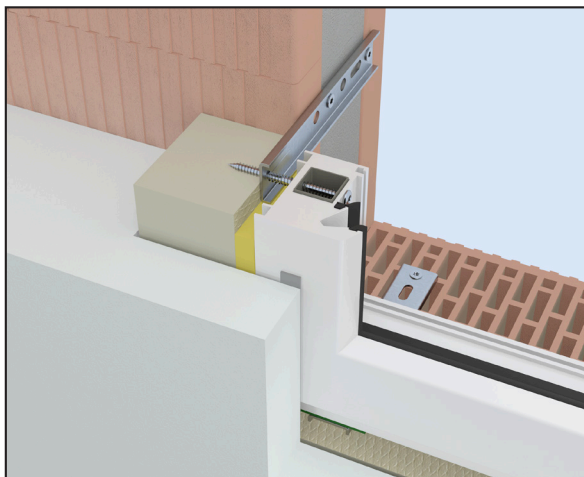
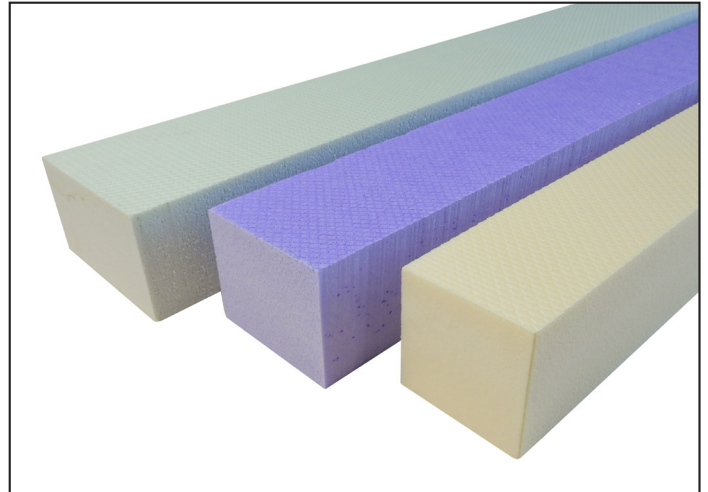
**Adhesive - MS FLEXI AD Polymer**  
page 141



# Insulation Frames

## 11.2. Insulation Frame - XPS

- thermal bridges at window openings are avoided
- neat connection face for insulation systems
- facilitates sealing
- solid and water-repellent
- can be plastered directly
- easy processing (cutter, jigsaw, hand saw)
- glue it for fastening



### Technical data

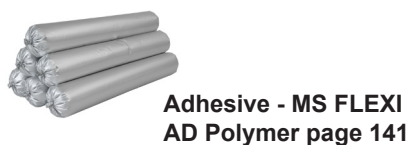
Designation	Standard	Value
rated value of the thermal conductivity span $\lambda(W/(m \cdot K))$	DIN 4108, Z-23.15-1481	0,036 (= 80, 100 mm); 0,037 (=120 - 160 mm)
nominal value of thermal conductivity $\lambda_D (W/(m \cdot K))$	DIN EN 13164	0,035 (= 80, 100 mm); 0,036 (=120 - 160 mm)
fire behaviour	DIN EN 13501	Class E, normal flammability
water absorption through long-term immersion	DIN EN 12087	< 0,7 vol.-%



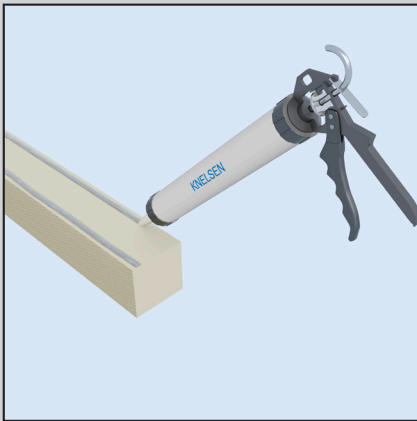
Additional doweling avoids the waiting time, which is caused by the drying process of the glue.

Article-No.	Article name [mm] width x height	Units
K-406008	Insulation Frame-XPS-80x80	1
K-406010	Insulation Frame-XPS-80x100	1
K-406012	Insulation Frame-XPS-80x120	1
K-406014	Insulation Frame-XPS-80x140	1
K-406016	Insulation Frame-XPS-80x160	1
K-406018	Insulation Frame-XPS-80x180	1
K-406020	Insulation Frame-XPS-80x200	1
Length: 1250mm		

### Associated products

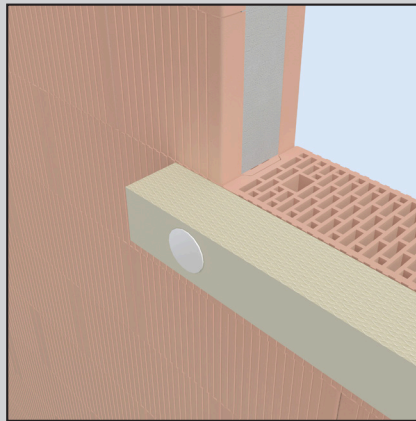


## Installation instruction



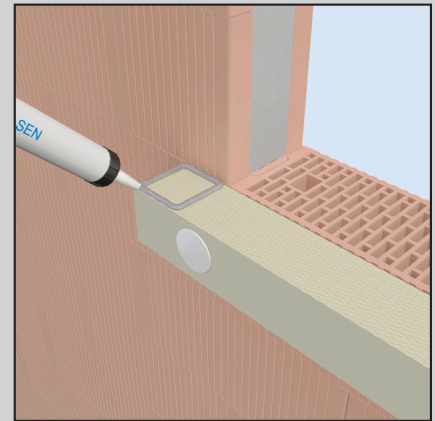
### Step 1

Apply a suitable adhesive (e.g. adhesive - MS FLEXI AD polymer) to the cut insulation frame. The structured surface of the frame should face upwards when installed.



### Step 2

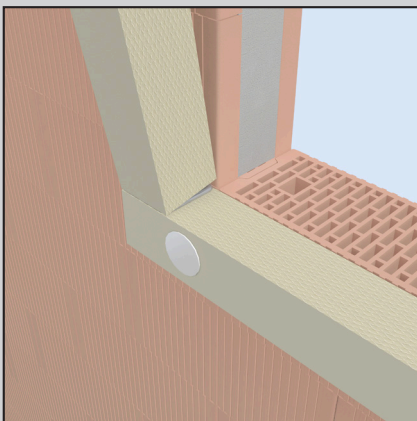
Press the side with the adhesive beads onto the masonry at the height of the parapet. The additional fastening with insulation dowels saves the waiting time caused by the drying of the adhesive.



### Step 3

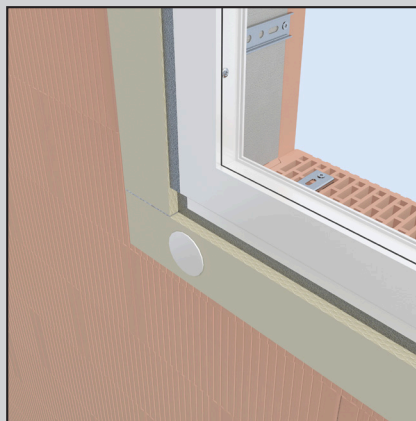
Apply adhesive in a rectangle at the joints of the horizontal and vertical insulation frames. This ensures that the joints are airtight.

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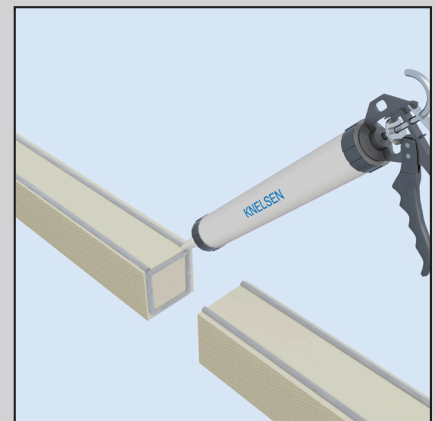
### Step 4

Apply adhesive to additional insulation frames and glue them around the window opening to the masonry. The structured surface of the frame should point in the direction of the window opening.



### Step 5

Insert the window, fix it to the masonry and seal it properly.

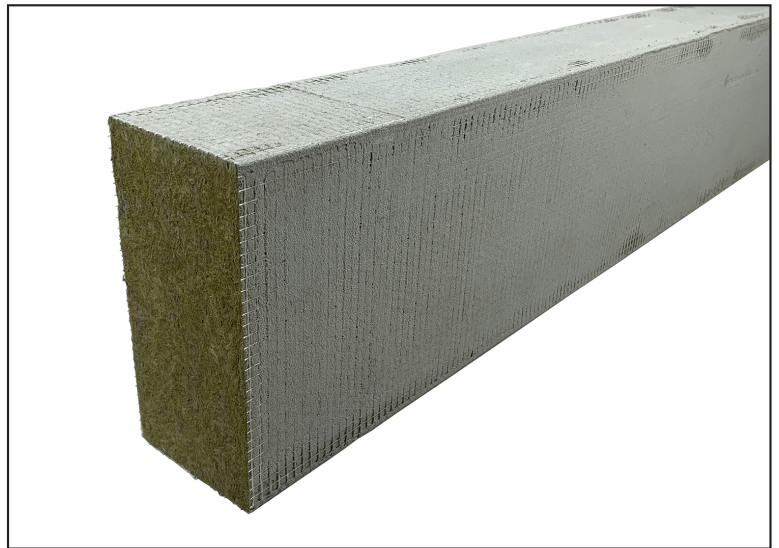


### Extending insulation frames

Insulation frames can be extended with offcuts. Applying the adhesive in a rectangle ensures that the joints are airtight.

**11.3. Insulation Frame - Stone Wool**

- thermal bridges at window openings are avoided
- sound insulation
- neat connection face for insulation systems
- facilitates sealing
- can be plastered directly
- fire protection class A1
- glue it for fastening



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**Technical data**

- heat conduction group: 040
- fire behaviour: class A1 according to DIN 4102-1 and DIN EN 13501
- the pallets are entirely equipped water-repellent (water-repellent)
- steam diffusion resistance factor: sign:  $\mu$   
Single value/MIN: 1  
Standards: DIN EN ISO 10456



*Additional doweling avoids the waiting time, which is caused by the drying process of the glue.*

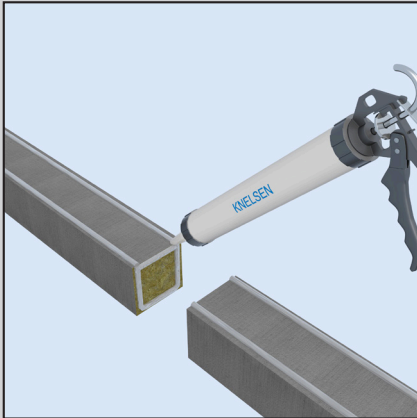
Article-No.	Article name [mm] width x height	Units
K-406060	Insulation Frame-SW-100x80	1
K-406063	Insulation Frame-SW-100x100	1
K-406067	Insulation Frame-SW-100x120	1
K-406071	Insulation Frame-SW-100x140	1
K-406074	Insulation Frame-SW-100x160	1
K-406076	Insulation Frame-SW-100x180	1
K-406079	Insulation Frame-SW-100x200	1
Length: 1200 mm		

**Deliverable after 10 working days from receipt of order.**

**Associated products**

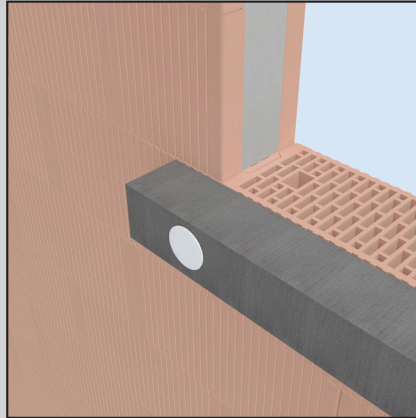


**Installation instruction**



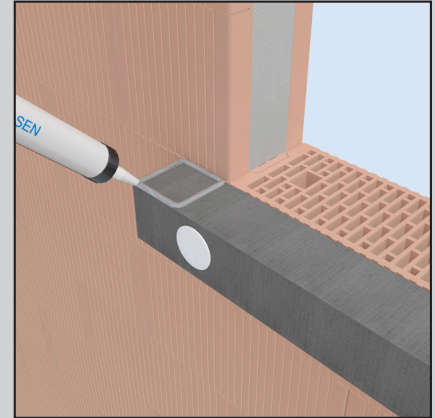
**Step 1**

Apply the adhesive - MS FLEXI AD Polymer in strips on the adhesive side of the insulation frame. Insulation frames can be extended with offcuts depending on the width of the window opening.



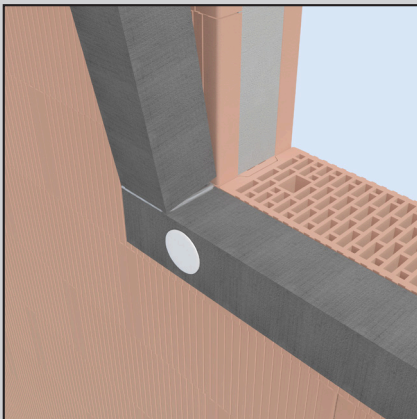
**Step 2**

Press the frame with the adhesive to the masonry, align horizontally and vertically. The additional fastening with insulation dowels saves the waiting time caused by the drying of the adhesive.



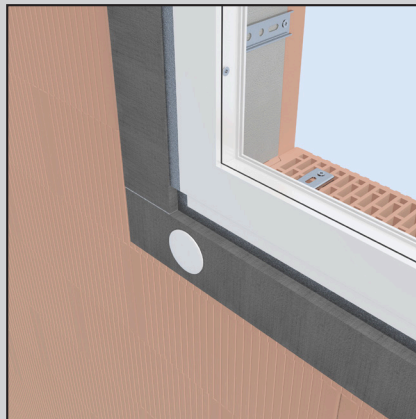
**Step 3**

Apply adhesive in a rectangle at the joints of the horizontal and vertical insulation frames. This ensures that the joints are airtight.



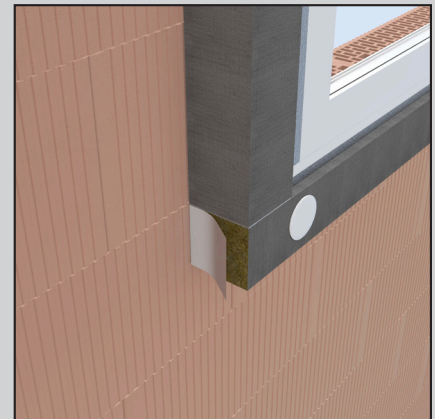
**Step 4**

Apply adhesive to additional insulation frames and glue them around the window opening to the masonry.



**Step 5**

Align the window with suitable structural anchors, fix it to the masonry and seal it properly.



**Step 6**

Seal the exposed joint of the insulation frames with a suitable foil.

# Sealing

## 12.1. Interior joint sealing film

- suitable for interior sealing
- UV-resistant
- self-adhesive with acrylate-based adhesive
- plasterable joint sealing film for air-tight / driving rain-proof sealing of window connection joints
- inside: full-surface adhesive surface for fastening to masonry
- outside: 12 mm wide adhesive strip for fastening to window profile
- material: aluminum membrane
- ift-Rosenheim tested, test number: 21-001750-PR01 PB-K07-02-en-01



WTI Total Alu 100

### Technical data

Designation	Standard	Value
s <sub>d</sub> -value	EN 1931	> 500 m
air permeability	EN 12114	no measurable air passage, tested with 1100 Pa
driving rain impermeability	EN 1027:2016-03	tested with 600 Pa
UV resistance		12 months
temperature resistance		-40°C to +80°C
processing temperature		-5°C to +30°C after surface preparation
storage		1 year, dry and in original packaging, at 0°C to 25°C

Article-No.	Article name [mm] Width	Width	Units
K-40801070	WTI Total Alu 70	70 mm	1
K-40801085	WTI Total Alu 85	85 mm	1
K-40801100	WTI Total Alu 100	100 mm	1
K-40801120	WTI Total Alu 150	150 mm	1

Roll length: 30 m

### Associated products



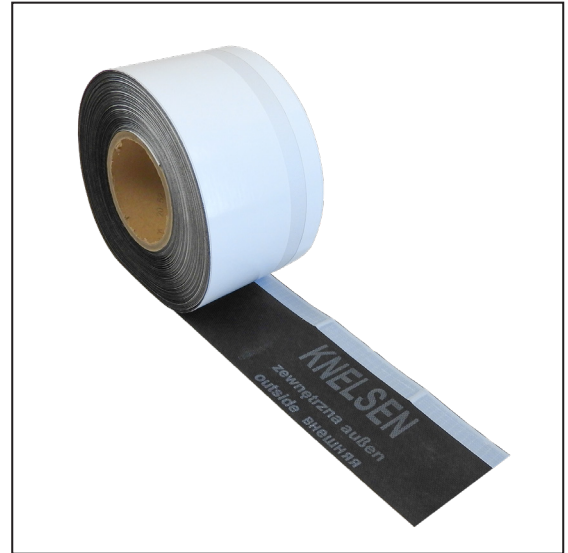
Adhesive - MS FLEXI  
AD Polymer page 141



Aerosol Primer  
page 130

## 12.2. Exterior joint sealing film

- suitable for exterior sealing
- UV-resistant
- plasterable joint sealing film for driving rain-proof sealing of window connection joints
- self-adhesive with acrylate-based adhesive
- material: fleece with vapor-permeable membrane
- inside: full-surface adhesive surface for fastening to masonry
- outside: 12 mm wide adhesive strip for fastening to window profile
- ift-Rosenheim tested, test number: 21-001750-PR01 PB-K07-02-en-01



WTO Total UV+ 100

### Technical data

Designation	Standard	Value
s <sub>d</sub> -value	EN 1931	0,65 m
driving rain impermeability	EN 1027:2016-03	tested with 600 Pa
UV resistance		9 months
temperature resistance		-40°C to +80°C
processing temperature		-5°C to +30°C after surface preparation
storage		1 year, dry and in original packaging, at 0°C to 25°C

Article-No.	Article name [mm] Width	Width	Units
K-40802070	WTO Total UV+ 70	70 mm	1
K-40802085	WTO Total UV+ 85	85 mm	1
K-40802100	WTO Total UV+ 100	100 mm	1
Roll length: 30 m			

### Associated products



**Adhesive - MS FLEXI  
AD Polymer page 141**



**Aerosol Primer  
page 130**

12.3. Aerosol Primer

- facilitates the application of sealing films
- easy application thanks to special nozzle
- offers excellent adhesive strength for butyl, bitumen, rubber and acrylic adhesives
- suitable for all commercially available building substrates (except polystyrene, EPS, XPS, Teflon)




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Article-No.	Article name [mm]	Units
K-40801040	Aerosol Primer	1

Technical data

Designation	Value
colour	transparent to straw coloured
application temperature	-5°C to +35°C
curing time	5 to 20 minutes depending on substrate, temperature and relative humidity
storage	at 5°C to 25°C, in well-ventilated rooms

 *Shake well before use. After spraying the surface to be bonded, wait 15-60 seconds and then apply the sealing film by pressing it onto the entire surface.*

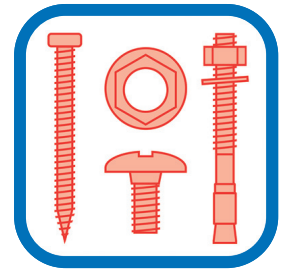
Safety data sheet







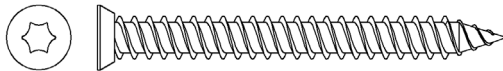
# Accessories



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13.1. Window Mounting Screws Ø7.5x42-302

SK = Countersunk Head

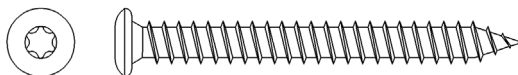


TX30

Article-No.	Article name [mm] diameter x length	Units
K-7,5X042-SK	Window Mounting Screw Ø7,5x42-SK	100
K-7,5X052-SK	Window Mounting Screw Ø7,5x52-SK	100
K-7,5X062-SK	Window Mounting Screw Ø7,5x62-SK	100
K-7,5X072-SK	Window Mounting Screw Ø7,5x72-SK	100
K-7,5X082-SK	Window Mounting Screw Ø7,5x82-SK	100
K-7,5X092-SK	Window Mounting Screw Ø7,5x92-SK	100
K-7,5X102-SK	Window Mounting Screw Ø7,5x102-SK	100
K-7,5X112-SK	Window Mounting Screw Ø7,5x112-SK	100
K-7,5X122-SK	Window Mounting Screw Ø7,5x122-SK	100
K-7,5X132-SK	Window Mounting Screw Ø7,5x132-SK	100
K-7,5X152-SK	Window Mounting Screw Ø7,5x152-SK	100
K-7,5X182-SK	Window Mounting Screw Ø7,5x182-SK	100
K-7,5X202-SK	Window Mounting Screw Ø7,5x202-SK	100
K-7,5X212-SK	Window Mounting Screw Ø7,5x212-SK	100
K-7,5X252-SK	Window Mounting Screw Ø7,5x252-SK	100
K-7,5X302-SK	Window Mounting Screw Ø7,5x302-SK	100

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LK = Fillister Head



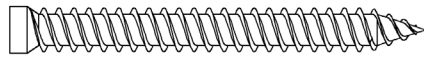
TX30

Article-No.	Article name [mm] diameter x length	Units
K-7,5X042-LK	Window Mounting Screw Ø7,5x42-LK	100
K-7,5X072-LK	Window Mounting Screw Ø7,5x72-LK	100
K-7,5X060-LK	Window Mounting Screw Ø7,5x60-LK	100
K-7,5X082-LK	Window Mounting Screw Ø7,5x82-LK	100
K-7,5X092-LK	Window Mounting Screw Ø7,5x92-LK	100
K-7,5X112-LK	Window Mounting Screw Ø7,5x112-LK	100
K-7,5X132-LK	Window Mounting Screw Ø7,5x132-LK	100
K-7,5X182-LK	Window Mounting Screw Ø7,5x182-LK	100
K-7,5X150-LK	Window Mounting Screw Ø7,5x150-LK	100
K-7,5X212-LK	Window Mounting Screw Ø7,5x212-LK	100

ZK = Cylindrical Head



TX30

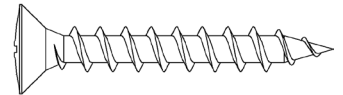


Article-No.	Article name [mm] diameter x length	Units
K-7,5X072-ZK	Window Mounting Screw Ø7,5x72-ZK	100
K-7,5X082-ZK	Window Mounting Screw Ø7,5x82-ZK	100
K-7,5X092-ZK	Window Mounting Screw Ø7,5x92-ZK	100
K-7,5X102-ZK	Window Mounting Screw Ø7,5x102-ZK	100
K-7,5X112-ZK	Window Mounting Screw Ø7,5x112-ZK	100
K-7,5X122-ZK	Window Mounting Screw Ø7,5x122-ZK	100
K-7,5X132-ZK	Window Mounting Screw Ø7,5x132-ZK	100
K-7,5X152-ZK	Window Mounting Screw Ø7,5x152-ZK	100
K-7,5X182-ZK	Window Mounting Screw Ø7,5x182-ZK	100
K-7,5X202-ZK	Window Mounting Screw Ø7,5x202-ZK	100
K-7,5X212-ZK	Window Mounting Screw Ø7,5x212-ZK	100
K-7,5X252-ZK	Window Mounting Screw Ø7,5x252-ZK	100
K-7,5X302-ZK	Window Mounting Screw Ø7,5x302-ZK	100

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## 13.2. Window screw type Super-E

- for fastening to plastic profiles, e.g. VBW for connection profile
- thin head facilitates sealing
- screwing into steel possible after predrilling (Ø3 mm)



Article-No.	Article name [mm] diameter x length	Units
K-734206	Window screw type Super-E Ø4,2x22	1000
K-734209	Window screw type Super-E Ø4,2x25	1000
K-734212	Window screw type Super-E Ø4,2x30	1000
K-734215	Window screw type Super-E Ø4,2x35	1000
K-734218	Window screw type Super-E Ø4,2x40	1000

### 13.3. Cover Caps

- for the Ø7.5 mm window mounting screws with countersunk head

Article-No.	Article name [mm]	Units
K-000003	Cover Cap FMS-SK Ø7,5 white	100



- for the Ø7.5 mm window mounting screws with cylindrical head

Article-No.	Article name [mm]	Units
K-000004	Cover Cap FMS-ZK Ø7,5 white	100



- for Ø10.5 mm holes, plastic window frames (SFK-Anchor)
- outer diameter: 15 mm

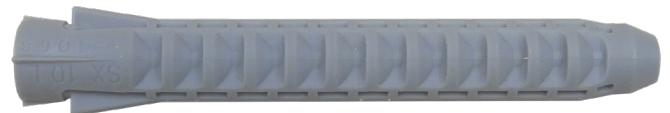
Article-No.	Article name [mm]	Colour	Units
K-148010	Cover Cap Ø10,5 white	white	50
K-148012	Cover Cap Ø10,5 brown	RAL8001	50
K-148013	Cover Cap Ø10,5 grey	RAL7035	50
K-14801310	Cover Cap Ø10,5 anthracite	RAL7016	50
K-148015	Cover Cap Ø10,5 black	black	50



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### 13.4. Fischer Dowel SX

- push-through dowels are suitable for Ø7.5 mm Window Mounting Screw



Article-No.	Article name [mm] diameter x length	Units
K-702528	fischer Dowel SX Ø10x50	100
K-702530	fischer Dowel SX Ø10x80	100

### 13.5. Heavy-Duty Dowel

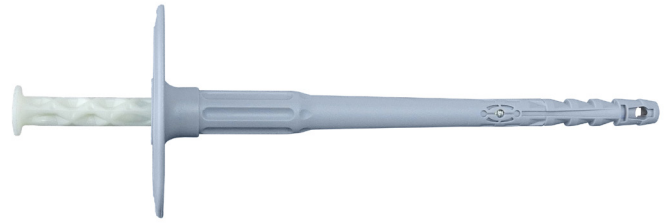
- for fixing to the concrete floor



Article-No.	Article name [mm] diameter x length	Units
K-024908	Heavy-Duty Dowel Ø8x71	100

### 13.6. Insulation Dowel

- for the fastening of the insulation frames
- saves waiting time when fixing insulation frames

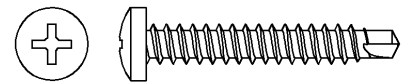


Article-No.	Article name [mm]	Units
K-01753418	Insulation Dowel 8x80	100
K-01753420	Insulation Dowel 8x100	100
K-01753422	Insulation Dowel 8x120	100
K-01753424	Insulation Dowel 8x140	100
K-01753426	Insulation Dowel 8x160	100
K-01753428	Insulation Dowel 8x180	100
K-01753430	Insulation Dowel 8x200	100

### 13.7. Drilling Screw compliant with DIN 7504 Type N

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Article-No.	Article name [mm] diameter x length	Units
K-4,8X13-LK	Drilling Screw Ø4,8x13-LK	500
K-4,8X19-LK	Drilling Screw Ø4,8x19-LK	500
K-4,8X22-LK	Drilling Screw Ø4,8x22-LK	500
K-4,8X32-LK	Drilling Screw Ø4,8x32-LK	500
K-4,8X50-LK	Drilling Screw Ø4,8x50-LK	500
K-4,8X70-LK	Drilling Screw Ø4,8x70-LK	500
K-6,3X16-LK	Drilling Screw Ø6,3x16-LK	500
K-6,3X22-LK	Drilling Screw Ø6,3x22-LK	500
K-6,3X25-LK	Drilling Screw Ø6,3x25-LK	500
K-6,3X32-LK	Drilling Screw Ø6,3x32-LK	500
K-6,3X50-LK	Drilling Screw Ø6,3x50-LK	500
K-6,3X70-LK	Drilling Screw Ø6,3x70-LK	250



### 13.8. Carriage Bolt M8x16 similar to DIN 603-4, square shaft height 3,5 mm

Article-No.	Article name [mm]	Units
K-000002	M8x16 Carriage Bolt	100



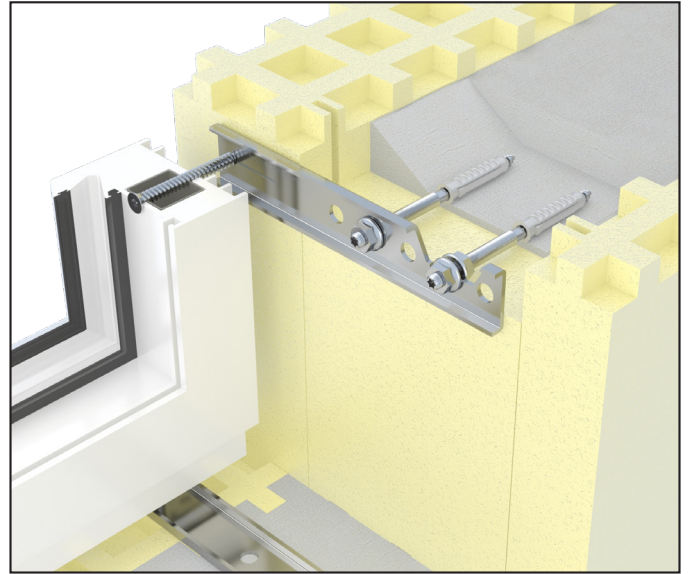
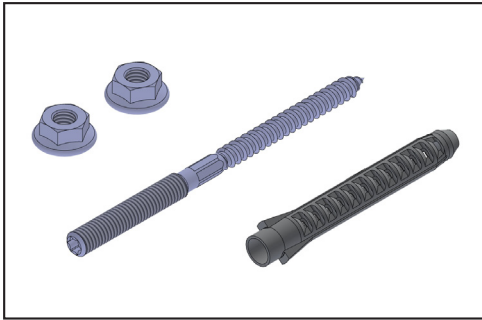
### 13.9. Flange Nut M8 compliant with DIN 6923

Article-No.	Article name [mm]	Units
K-000001	M8 Flange Nut	100



**13.10. Anchor Mounting in the Insulated Reveal**

- anchor mounting in the insulated reveal
- suitable for all U-Profile Anchors



13

Article-No.	Article name [mm]	Units
K-M8X100	Hanger Bolt M8x100	100
K-M8X120	Hanger Bolt M8x120	100
K-M8X140	Hanger Bolt M8x140	100
K-M8X160	Hanger Bolt M8x160	100
Scope of delivery per item: 2x Flange Nut M8, 1x Dowel		

### 13.11. Bit-Hexagon Socket

- 1/4" drive according to DIN ISO 1173 - E 6,3
- for hexagon socket screwing



Article-No.	Article name [mm]	SW	Units
K-000108	Bit-Hexagon Socket SW8	8 mm	5

### 13.12. Bit-TX

- 1/4" drive according to DIN ISO 1173 - E 6,3
- for internal TX screws



Article-No.	Article name [mm]	Total length	Units
K-000122	1/4" Bit-TX30x152	152 mm	1

### 13.13. Bit Holder

- suitable for bits with 1/4" hexagonal drive
- suitable for screwdrivers with 1/4" hexagonal drive
- magnetic
- with snap ring to secure the bit
- for manual operation, cordless screwdrivers and drills



Article-No.	Article name [mm]	Ø Head	Units
K-00985500	1/4" Bit Holder 200mm - magnetic, snap ring	10 mm	1
K-00985520	1/4" Bit Holder 250mm - magnetic, snap ring	10 mm	1
K-00985540	1/4" Bit Holder 300mm - magnetic, snap ring	10 mm	1



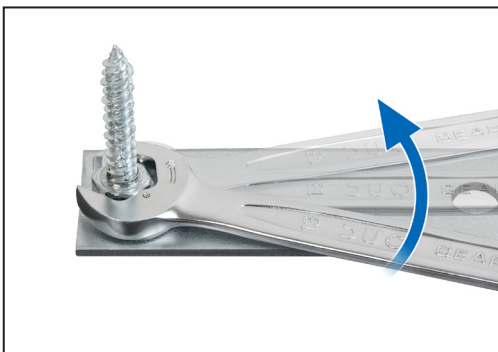
**13.14. Ratchet Wrench**

- time-saving ratchet mechanism
- straight shape
- narrow design allows adjustment with little space between anchor and window frame



Article-No.	Article name [mm]	Units
K-000220	Box End Ratchet Wrench SW13	1
K-000225	Box End Ratchet Wrench SW17	1
K-000230	Box End Ratchet Wrench SW19	1

13



*Adjusting the FMS-Anchor - Flat Steel*



*narrow design*

**13.15. Ratchet Wrench Grip**

- facilitates the adjustment of e.g. FMS anchors
- magnetic



Article-No.	Article name [mm]	Units
K-000281	Ratchet Wrench Grip SW13	1

## 13.16. Adhesive - MS FLEXI AD Polymer

- Hybrid adhesive and sealant
- can be used indoors and outdoors
- suitable for use on damp surfaces
- fast curing with almost no shrinkage
- does not cause corrosion
- contains no isocyanates, silicones or solvents
- can be painted over immediately after application with water-thinnable paints



Polymer adhesive - grey

### Technical data

Designation	Value
base	hybrid polymer
consistency	firm paste
density	ca. 1,52 g/ml
skin formation	ca. 35-45 minutes (23°C; 50% RH)
storage	8 months

Designation	Value
cure speed	ca. 3 mm/24 h (23°C; 50% RH)
shrinkage	< 6%
shore A-hardness	ca. 50
processing temperature	+5°C to +40°C

13

### Mechanical properties in the tensile range

#### ISO 37 (2mm thick, 7 days, 23°C; 50% RH)

Designation	Value
modulus of elasticity 100%	1,40 N/mm <sup>2</sup>
tensile strength	2,0 N/mm <sup>2</sup>
elongation at tear	200%

#### ISO 8339 (12x12x50 mm distance, 28 days, 23°C; 50% RH)

Designation	Value
modulus of elasticity 100%	0,25 N/mm <sup>2</sup>
tensile strength	0,40 N/mm <sup>2</sup>
elongation at tear	300%

Article-No.	Article name [mm]	Units
K-40608000	Polymer adhesive - grey	1
K-40608001	Polymer adhesive - grey	20

Contents: 600 ml, Scope of delivery K-40608000: 1x dosing tip, Scope of delivery K-40608001: 6x dosing tip

### Associated products



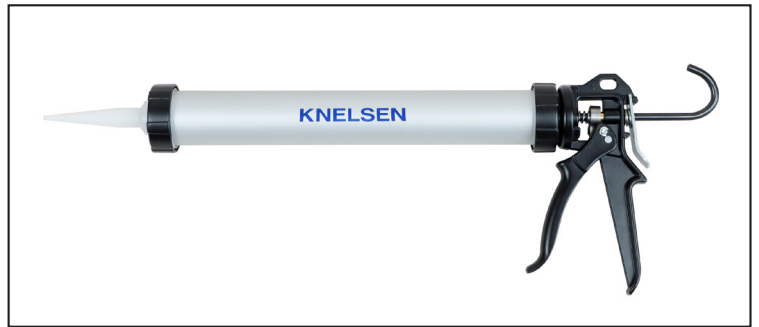
Applicator gun  
page 142



Dosing tip  
page 143

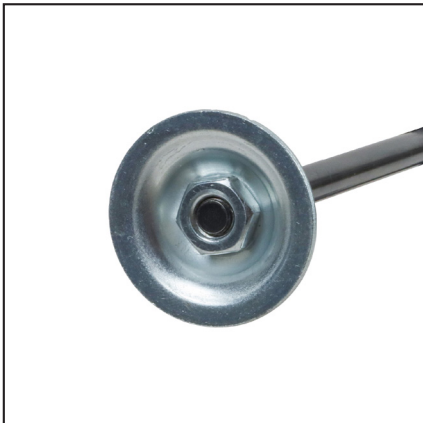
**13.17. Applicator gun**

- for tube bags and conventional sealant and adhesive cartridges from 310 to 600 ml
- lever transmission of approx. 400 kg at low effort
- dispensing tip included
- robust and corrosion-free metal construction
- low dead weight facilitates working



Article-No.	Article name [mm]	Units
K-40607980	XL applicator gun 310-600ml	1

13



for cartridges



for tube bags

**Associated products**



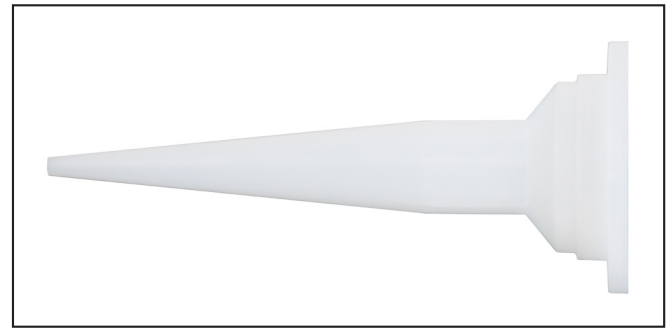
Adhesive - MS FLEXI  
AD Polymer page 141



Dosing tip  
page 143

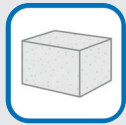
### 13.18. Dosing tip for tube bags

- suitable for cartridge presses and foil bags
- suitable for adhesives and sealants
- suitable for tube bags from 400 ml to 600 ml
- wide rim and tight fit
- length: 120 mm
- plate diameter: approx. 50 mm



Article-No.	Article name [mm]	Units
K-40607985	Dosing tip	1

## Drills



suitable for concrete



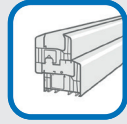
suitable for reinforced concrete



suitable for vertically perforated brick



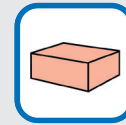
suitable for wood



suitable for plastic



suitable for metal



suitable for solid brick



impact drilling

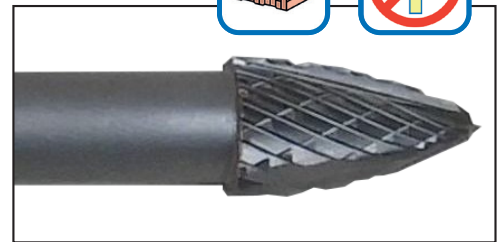
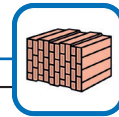


drilling without impact

13

### HLZ - Vertically Perforated-Lattice Brick-Drill

#### HLZ-FR – Milling Drill



- up to 200% more support of the dowel
- drilling without impact
- maximum rotational speed of 1.600 U/min

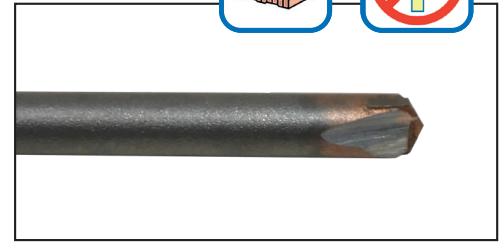
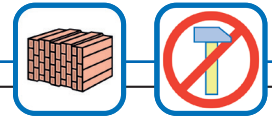


*When drilling, contact with the masoned joints and finished plastering should be avoided for the optimal service life.*


The HLZ-Milling mills easily without impact in vertically perforated bricks and air bricks. Therefore, a neat drill and an increase of the holding force for the dowel up to 200% over conventional drills are received.

Article-No.	Article name [mm]	Ø Head	Total length	Shank	Working length	Units
K-000020	HLZ-FR-10,3x200-SDS	10.3 mm	200 mm	SDS-plus	150 mm	1
K-000021	HLZ-FR-6,3x263-SDS	6.3 mm	263 mm	SDS-plus	213 mm	1

### HLZ-ST - Rod Drill

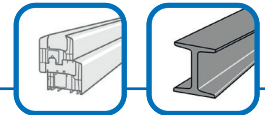


- developed to avoid damaging the thin structure of modern energy-saving bricks
- drilling without impact

 Only apply low pressure.

Article-No.	Article name [mm]	Ø Head	Total length	Shank	Working length	Units
K-000039	HLZ-ST-5,0x400-BF	5 mm	400 mm	Chuck	320 mm	1
K-000046	HLZ-ST-10,0x300-BF	10 mm	300 mm	Chuck	220 mm	1

### HSS-ST - Rod Drill



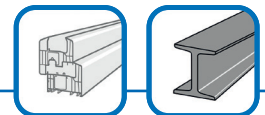
13



- suitable for widening profiles (plastic, steel, aluminium)
- precise and robust

Article-No.	Article name [mm]	Ø Head	Total length	Shank	Working length	Units
K-00004850	HSS-ST-5,9x500-BF	5,9 mm	500 mm	Chuck	420 mm	5

### HSS-SP - Twist Drill



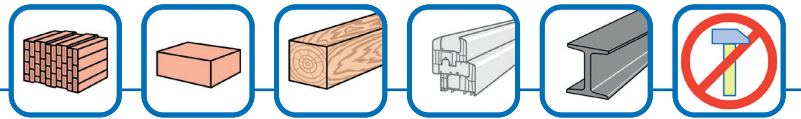
- with stepped shaft, suitable for cordless screwdrivers
- for robust drilling work



Article-No.	Article name [mm]	Ø Head	Total length	Shank	Working length	Units
K-00004540	HSS-SP DIN 338 type N stepped 10/14,0x160	14 mm	160 mm	10 mm stepped	108 mm	1

### MZ – Multi-Purpose Drill

#### MZ-SP - Spiral-Drill



- drill without impact; shortened SDS intake prevents impact drilling
- developed to avoid damaging the thin structure of modern energy-saving bricks
- universally applicable: solid bricks, roof tiles, wood, plastic, metal



When working with energy-saving bricks, apply low pressure only.

Article-No.	Article name [mm]	Ø Head	Total length	Shank	Working length	Units
K-000034	MZ-SP-6,0x310-SDS	6 mm	310 mm	SDS-plus fitting	250 mm	1
K-000036	MZ-SP-8,0x200-BF	8 mm	200 mm	Chuck	135 mm	1
K-000036-01	MZ-SP-8,0x210-SDS	8 mm	210 mm	SDS-plus fitting	150 mm	1
K-000036-02	MZ-SP-8,0x260-SDS	8 mm	260 mm	SDS-plus fitting	200 mm	1
K-000037	MZ-SP-8,0x400-BF	8 mm	400 mm	Chuck	300 mm	1
K-000038	MZ-SP-10,0x260-SDS	10 mm	260 mm	SDS-plus fitting	200 mm	1

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### Wood Auger

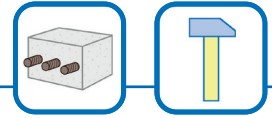


- wood drill
- well suited for cutting free the insulation in the roller shutter box
- very precise drilling
- sharp cutting edges

Article-No.	Article name [mm]	Ø Head	Total length	Shank	Working length	Units
K-01530322	Wood-Auger-8,0x460-6kS	8 mm	460 mm	hexagonal shank	380 mm	1
K-01530370	Wood-Auger-10,0x600-6kS	10 mm	600 mm	hexagonal shank	530 mm	1
K-01530410	Wood-Auger-12,0x600-6kS	12 mm	600 mm	hexagonal shank	530 mm	1
K-01530461	Wood-Auger-14,0x600-6kS	14 mm	600 mm	hexagonal shank	530 mm	1
K-01530502	Wood-Auger-16,0x460-6kS	16 mm	460 mm	hexagonal shank	380 mm	1
K-01530530	Wood-Auger-18,0x460-6kS	18 mm	460 mm	hexagonal shank	380 mm	1
K-01530561	Wood-Auger-22,0x460-6kS	22 mm	460 mm	hexagonal shank	380 mm	1
K-01530604	Wood-Auger-24,0x460-6kS	24 mm	460 mm	hexagonal shank	380 mm	1
K-01530635	Wood-Auger-26,0x460-6kS	26 mm	460 mm	hexagonal shank	380 mm	1

## Hammer Drills

### FORCE-X

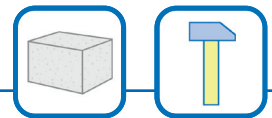


- impact drilling
- for reinforced concrete
- 4 solid carbide cutting edges

Article-No.	Article name [mm]	Ø Head	Total length	Shank	Working length	Units
K-01508280	FORCE-X-8,0x210-SDS	8 mm	210 mm	SDS-plus	150 mm	1
K-01508320	FORCE-X-8,0x450-SDS	8 mm	450 mm	SDS-plus	400 mm	1
K-01508370	FORCE-X-10,0x600-SDS	10 mm	600 mm	SDS-plus	550 mm	1
K-01508410	FORCE-X-12,0x600-SDS	12 mm	600 mm	SDS-plus	550 mm	1
K-01508450	FORCE-X-14,0x600-SDS	14 mm	600 mm	SDS-plus	550 mm	1
K-01508500	FORCE-X-18,0x600-SDS	18 mm	600 mm	SDS-plus	550 mm	1

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### F4 FORTE



- drilling with impact in concrete, natural stone and masonry
- carbide plate with excellent centering properties
- 4-fold step profile for fast drill dust delivery
- low wear, long tool life

Article-No.	Article name [mm]	Ø Head	Total length	Shank	Working length	Units
K-01509100	F4-FORTE-6,5x450-SDS	6,5 mm	450 mm	SDS-plus	400 mm	1

# Mounting Aids

## Window Mounting Clamp

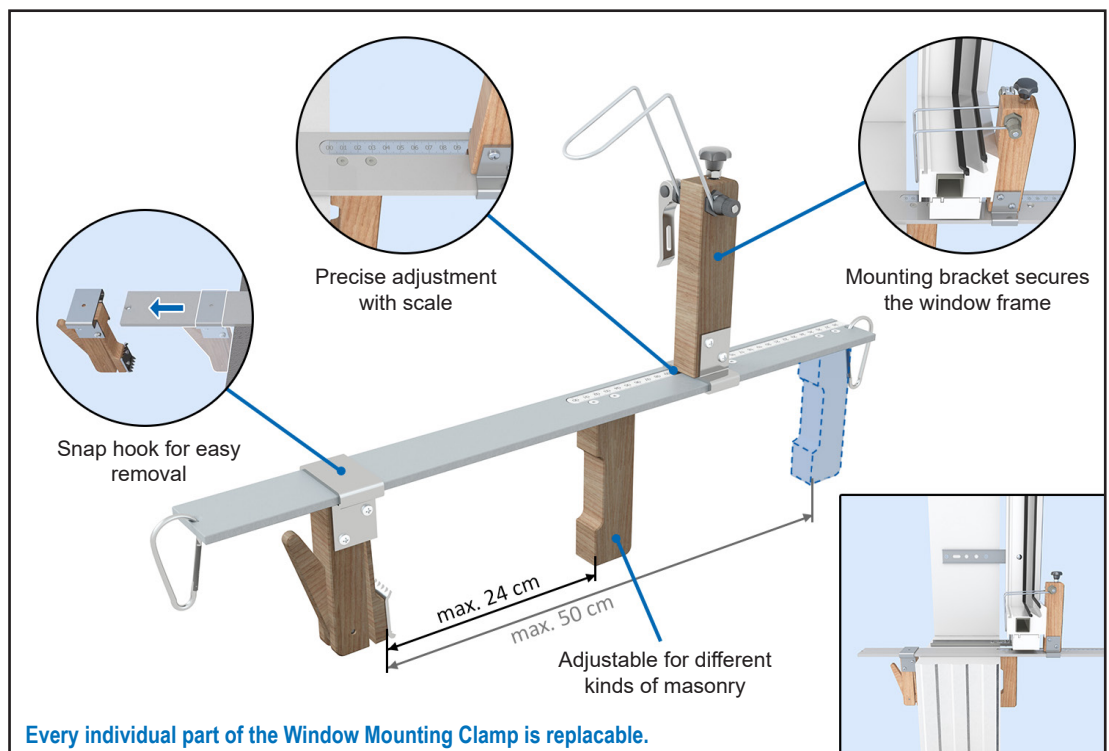
- aid for mounting from below and lateral
- easier setting and aligning of windows
- no second fitter needed
- can be used for masonry up to 50 cm
- multiple application possibilities
- exchangeable components



13

Article-No.	Article name [mm]	Units
K-405510	Window Mounting Clamp	2

to the video



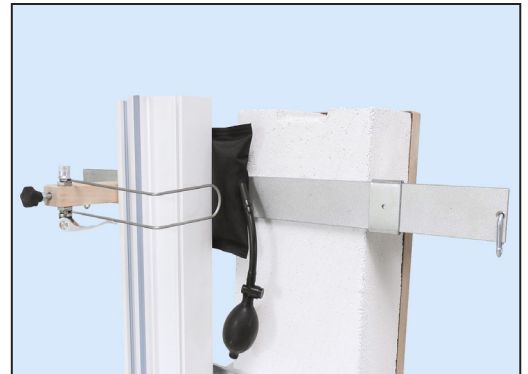
### Installation instruction

First the clamps are mounted to the window opening and then the adjustable stopping arm is set to the desired overhang. Now the window frame can be placed onto the Window Mounting Clamp, propped against the stopping arm and secured against overturning with the mounting brackets.

Then the window frame is aligned and fixed using blocks, wedges or mounting pads. After mounting the window frame, the Window Mounting Clamp is removed. The moving clamp arm is removed first. The rest is pulled out to the outside.

## Mounting Pad

- for the fixing and alignment of windows and doors
- time-saving
- seams from 2.0 to 50.0 mm
- can carry loads of up to 100 kg
- prevents scratches
- very durable and reusable



Article-No.	Article name [mm]	Units
K-01055200	Mounting Pad 150x160	4

# Samples

## 14.1. Sample Package

### adaptations on request

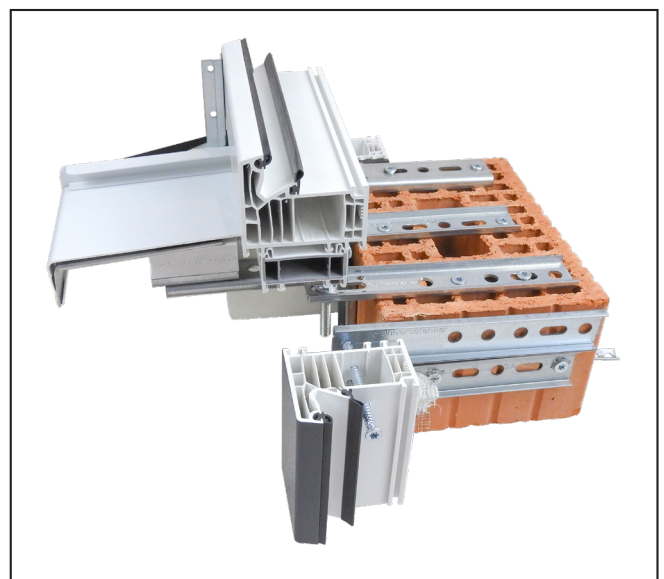
- |                         |                      |                         |                    |
|-------------------------|----------------------|-------------------------|--------------------|
| • SFK-200x1,5-40        | Art.-No.: K-149000   | • FMW 65x125x1,5        | Art.-No.: K-405120 |
| • W-200x2,5-40-H14      | Art.-No.: K-405009   | • FMW 65x145x2,5-F60    | Art.-No.: K-405128 |
| • D-FBH flush           | Art.-No.: K-405065   | • FMW H-120-160x105x2,5 | Art.-No.: K-405132 |
| • D-FBH variable        | Art.-No.: K-405066   | • WU-250x2,5-60         | Art.-No.: K-405153 |
| • WS-65x110-F60         | Art.-No.: K-405075   | • V-Perforated Rail-160 | Art.-No.: K-405179 |
| • WM-150x1,5-40         | Art.-No.: K-405080   | • SLW-95x180x2,5        | Art.-No.: K-405201 |
| • EL-150x2,5 Flat Steel | Art.-No.: K-405101-F | • F-U-P-FMW-50x160x2,5  | Art.-No.: K-405241 |
| • EL-200x1,5 U-Profile  | Art.-No.: K-405102   | • SL-Bracket 250-80     | Art.-No.: K-405270 |
| • FMW-30x150x2,5        | Art.-No.: K-405110   |                         |                    |

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Article-No.	Article name [mm]	Units
K-057000	Sample Package K-Universal Anchor	1

## 14.2. Sample Stone

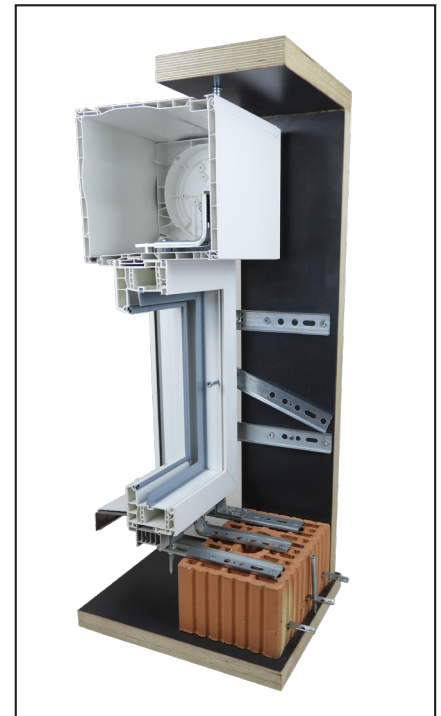
- |                         |                      |
|-------------------------|----------------------|
| • D-FBH variable        | Art.-No.: K-405066   |
| • T-ABFH-35-120-160     | Art.-No.: K-405281   |
| • WM-200x1,5-40         | Art.-No.: K-405084   |
| • EL-150x2,5 Flat Steel | Art.-No.: K-405101-F |
| • EL-200x1,5 U-Profile  | Art.-No.: K-405102   |
| • EL-200x2,5 U-Profile  | Art.-No.: K-405104   |
| • VBW-35x50x2,5         | Art.-No.: K-405112   |
| • F-U-P-FMW-50x160x2,5  | Art.-No.: K-405241   |
| • SL-Bracket 220-80     | Art.-Nr.: K-405270   |
| • V-Perforated Rail-200 | Art.-Nr.: K-405180   |



Article-No.	Article name [mm]	Units
K-059000	Sample Stone	1

### 14.3. Sample Frame with Roller Shutter Box

- RK-Fest-SS-12x300                      Art.-No.: K-400100
- D-FBH flush                                Art.-No.: K-405065
- T-ABFH-35-120-160                      Art.-No.: K-405281
- WM-200x1,5-40                            Art.-No.: K-405084
- EL-200x1,5 U-Profile                      Art.-No.: K-405102
- W-200x1,5-40-sleeve10                    Art.-No.: K-405006
- EL-200x2,5 U-Profile                      Art.-No.: K-405104
- VBW-35x50x2,5                            Art.-No.: K-405112
- F-U-P-FMW-50x160x2,5                    Art.-No.: K-405241
- WU-200x2,5-60                            Art.-No.: K-405149
- V-Perforated Rail-200                      Art.-No.: K-405180



14

Article-No.	Article name [mm]	Units
K-059001	Sample Frame with Roller Shutter Box	1

### 14.4. Mobile Masonry

- e.g. for exhibitions, training
- stone construction according to customer requirements, with clinker, ...
- ground level or with parapet
  - length: 1500 mm
  - width: 750 mm
  - height: 2400 mm
  - weight: 325 kg
- the information (masonry photo) may vary depending on the stone structure
- production on request



Article-No.	Article name [mm]
K-058100	Mobile Masonry

Article-No.	Article name [mm]	page	Article-No.	Article name [mm]	page
K-000001	M8 Flange Nut	137	K-01508410	FORCE-X-12,0x600-SDS	147
K-000002	M8x16 Carriage Bolt	137	K-01508450	FORCE-X-14,0x600-SDS	147
K-000003	Cover Cap FMS-SK Ø7,5 white	136	K-01508500	FORCE-X-18,0x600-SDS	147
K-000004	Cover Cap FMS-ZK Ø7,5 white	136	K-01509100	F4-FORTE-6,5x450-SDS	147
K-000010	Adjusting Element-F40	72	K-01530322	Wood-Auger-8,0x460-6kS	146
K-000011	Adjusting Element-F60	72	K-01530370	Wood-Auger-10,0x600-6kS	146
K-000013	Adjusting Element-W40	72	K-01530410	Wood-Auger-12,0x600-6kS	146
K-000015	Adjusting Element-W60	72	K-01530461	Wood-Auger-14,0x600-6kS	146
K-000020	HLZ-FR-10,3x200-SDS	144	K-01530502	Wood-Auger-16,0x460-6kS	146
K-000021	HLZ-FR-6,3x263-SDS	144	K-01530530	Wood-Auger-18,0x460-6kS	146
K-000034	MZ-SP-6,0x310-SDS	146	K-01530561	Wood-Auger-22,0x460-6kS	146
K-000036-01	MZ-SP-8,0x210-SDS	146	K-01530604	Wood-Auger-24,0x460-6kS	146
K-000036-02	MZ-SP-8,0x260-SDS	146	K-01530635	Wood-Auger-26,0x460-6kS	146
K-000036	MZ-SP-8,0x200-BF	146	K-01753418	Insulation Dowel 8x80	137
K-000037	MZ-SP-8,0x400-BF	146	K-01753420	Insulation Dowel 8x100	137
K-000038	MZ-SP-10,0x260-SDS	146	K-01753422	Insulation Dowel 8x120	137
K-000039	HLZ-ST-5,0x400-BF	145	K-01753424	Insulation Dowel 8x140	137
K-00004540	HSS-SP DIN 338 type N stepped 10/14,0x160	145	K-01753426	Insulation Dowel 8x160	137
K-000046	HLZ-ST-10,0x300-BF	145	K-01753428	Insulation Dowel 8x180	137
K-00004850	HSS-ST-5,9x500-BF	145	K-01753430	Insulation Dowel 8x200	137
K-000050	ISO-Plate-135	62	K-024908	Heavy-Duty Dowel Ø8x71	136
K-000052	ISO-Plate-160	62	K-057000	Sample Package K-Universal Anchor	150
K-000054	ISO-Plate-180	62	K-058100	Mobile Masonry	151
K-000056	ISO-Plate-210	62	K-059000	Sample Stone	150
K-000058	ISO-Plate-260	62	K-059001	Sample Frame with Roller Shutter Box	151
K-000108	Bit-Hexagon Socket SW8	139	K-130001	BAP-Adjusting Element-M8x40	73
K-000122	1/4" Bit-TX30x152	139	K-130002	BAP-Adjusting Element-M8x60	73
K-000220	Box End Ratchet Wrench SW13	140	K-130003	BAP-Adjusting Element-M12x70	73
K-000225	Box End Ratchet Wrench SW17	140	K-13001100	J-Blocking-M8x65	75
K-000230	Box End Ratchet Wrench SW19	140	K-130019	J-Blocking-M12x68	75
K-000281	Ratchet Wrench Grip SW13	140	K-130020	J-Blocking-M12x100-ISK	75
K-000314	WU-Adjusting Element-M12x70-F	74	K-130021	J-Blocking-M12x108	75
K-00033400	WU-Strut-U65x120x3,0-M12x85-135	33	K-130053	AS-Holder 125-30	114
K-00034000	WU-Strut-U95x140x3,0-M12x115-165	33	K-130055	AS-Holder 150-30	114
K-00034090	WU-Strut-S95x180-M12x115-165	33	K-130057	AS-Holder 175-30	114
K-00034100	WU-Strut-S120x200-M12x140-190	33	K-130073	AS-Holder SL-125-30	112
K-00034120	WU-Strut-S150x200-M12x170-220	33	K-130075	AS-Holder SL-150-30	112
K-000432	J-Strut-300x3,0-M12x80-115	30	K-130077	AS-Holder SL-175-30	112
K-000435	J-Strut-300x3,0-M12x115-205	30	K-13007800	AS-Holder SL-125-30 - Wood	112
K-000438	J-Strut-300x3,0-M12x160-270	30	K-13007810	AS-Holder SL-150-30 - Wood	112
K-00985500	1/4" Bit Holder 200mm - magnetic, snap ring	139	K-13007820	AS-Holder SL-175-30 - Wood	112
K-00985520	1/4" Bit Holder 250mm - magnetic, snap ring	139	K-130090	AS-Additional Profile 200x2,5	113
K-00985540	1/4" Bit Holder 300mm - magnetic, snap ring	139	K-148010	Cover Cap Ø10,5 white	136
K-01055200	Mounting Pad 150x160	149	K-148012	Cover Cap Ø10,5 brown	136
K-01508280	FORCE-X-8,0x210-SDS	147	K-14801310	Cover Cap Ø10,5 anthracite	136
K-01508320	FORCE-X-8,0x450-SDS	147	K-148013	Cover Cap Ø10,5 grey	136
K-01508370	FORCE-X-10,0x600-SDS	147	K-148015	Cover Cap Ø10,5 black	136

Article-No.	Article name [mm]	page	Article-No.	Article name [mm]	page
K-148992-F	SFK-125x2,5-F-40	20	K-40021014	RK-Fixed-DS-11,5-285	98
K-148995	SFK-150x1,5-40	18	K-400210	RK-Fixed-DS-11,5-245	98
K-148996-F	SFK-150x2,5-F-40	20	K-400256	RK-Fixed-DS-RA-25x280	100
K-148996	SFK-150x2,5-40	18	K-400332	RK-Fixed-RP-16x400	96
K-149000-2	SFK-200x2,5-40	18	K-400333	RK-Fixed-RP-16x460	96
K-149000	SFK-200x1,5-40	18	K-400360	RK-Fixed-RA-16x400	102
K-149001-3	SFK-250x3,0-40	18	K-400362	RK-Fixed-RA-16x460	102
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K-149002	SFK-300x3,0-40	18	K-400436	RK-Fixed-KOM-230x165-M8x70	92
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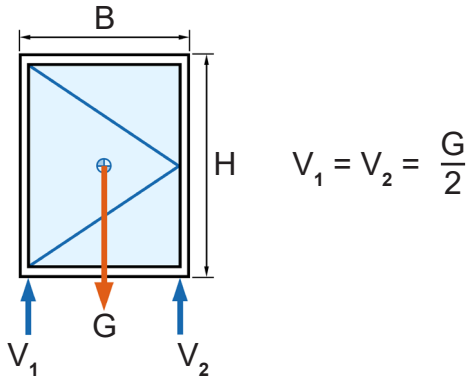
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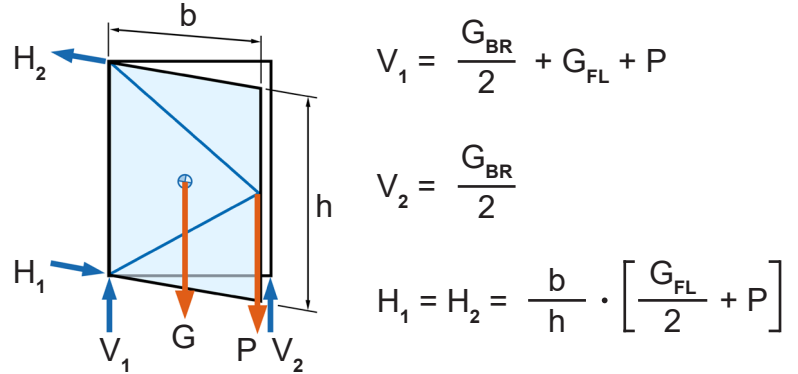


### Forces in the window plane (V) or plane of the casement (H)

Casement closed, support reaction:



Casement with minimal opening, support reaction:



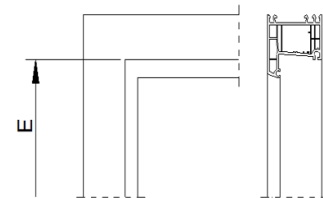
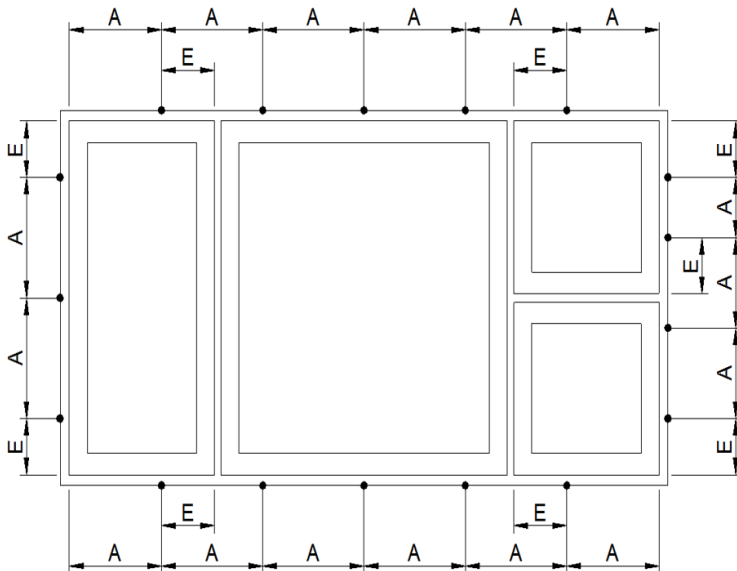
Legend:

$V_n, H_n$  Support reaction  
 $P$  Vertical imposed load

$B, H, b, h$  Width and height of element, casement  
 $G$  Dead load,  $_{BR}$  = frame,  $_{FL}$  = casement

**The fixing points and mounting distances, which are stated by the system provider, must be observed.**

Transference of the forces which act perpendicularly to the window plane (wind load) and fixing distances



● = Fixing point

**A = Distance of fixing anchor**

Aluminium window - max. 800 mm

Wood window - max. 800 mm

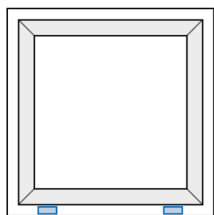
PVC window - max. 700 mm

**E = Distance from inner corner edge**

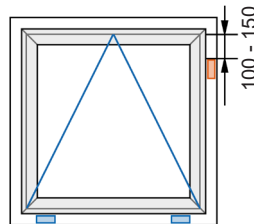
Distance from the inner frame corner or from the inner profile of mullion and transom 100 to 150 mm

Transference of the forces in the window plane (own weight and live load)

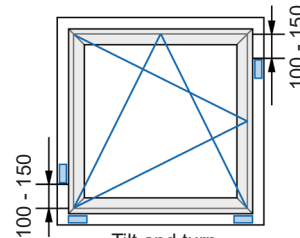
**Attention: static anchors have to be arranged as same as wedgings!**



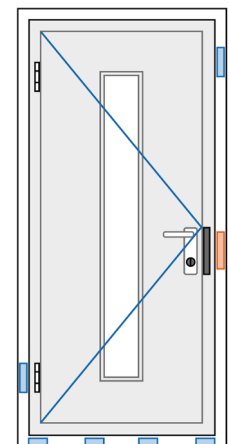
Fixed glazing  
(supporting blocks below glazing blocks)



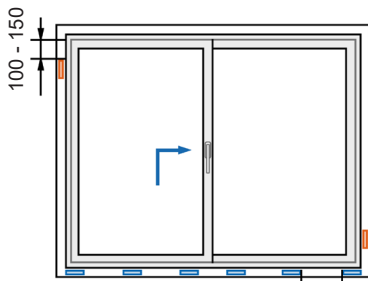
Bottom-hung window  
(supporting blocks below glazing blocks)



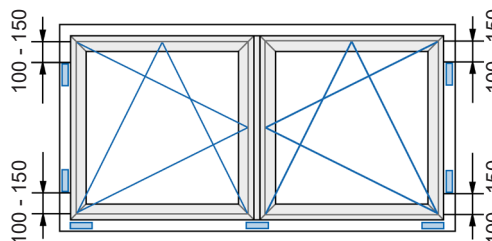
Tilt and turn window



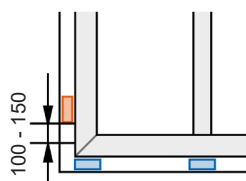
External ped. door



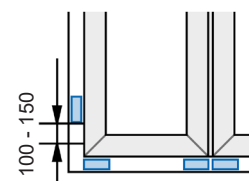
Lift-up sliding door  
approx. 30 cm  
(tested measurement)



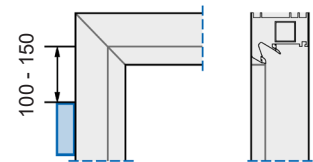
Two winged window without a solid with centre mullion  
(The support chunk in the area of the middle section must not affect the function of the window)



Post



Coupling



■ = Setting block

■ = Spacer block

## Additional documents for window mounting



Brochure „Fall protection with K-Universal anchors“  
[www.absturzsicherung.knelsen.de](http://www.absturzsicherung.knelsen.de)



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