



## FASTENING TECHNOLOGY

2

Right-Angled Connections

Angled Connections

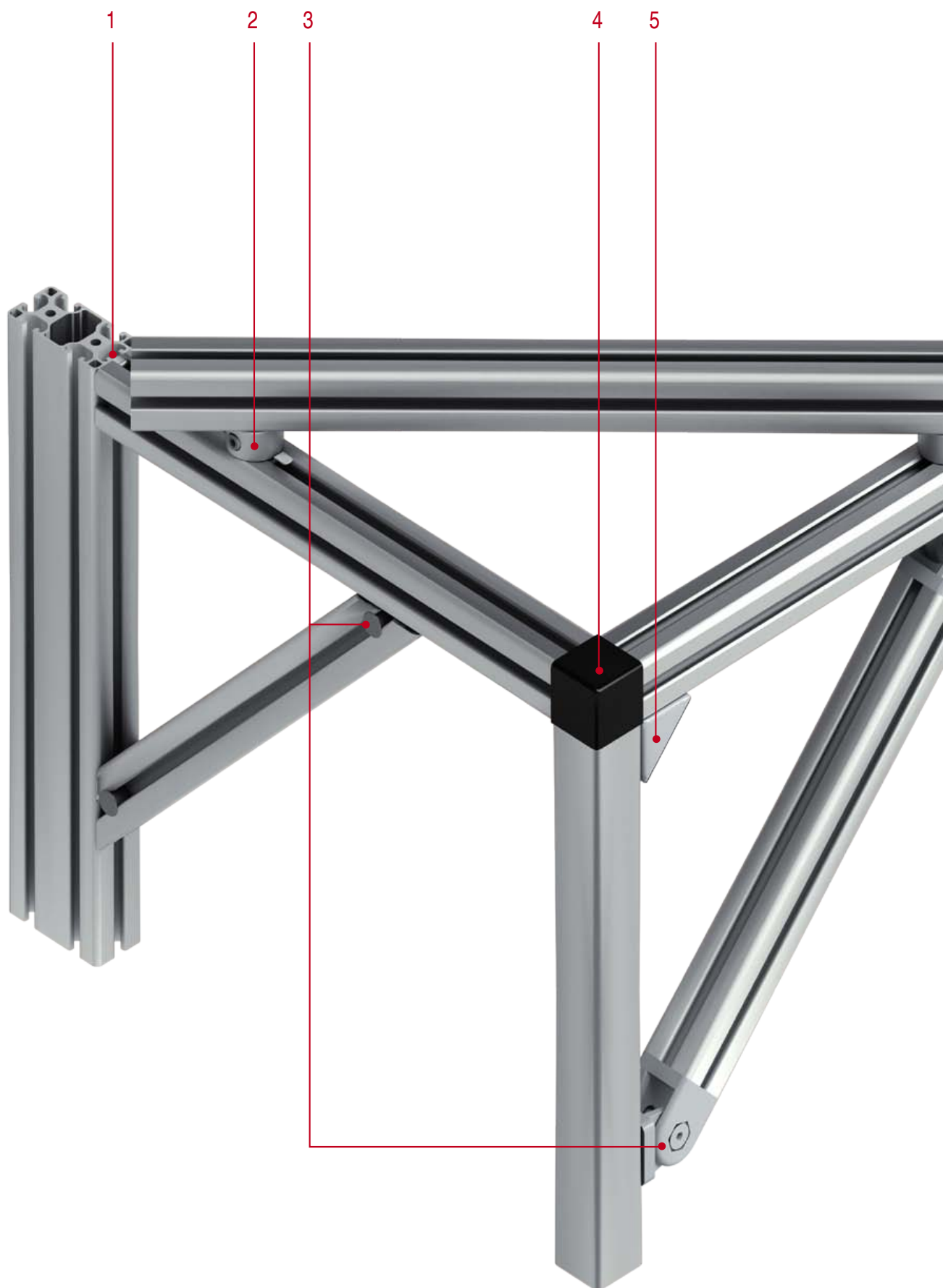
Cross-Profile Connections

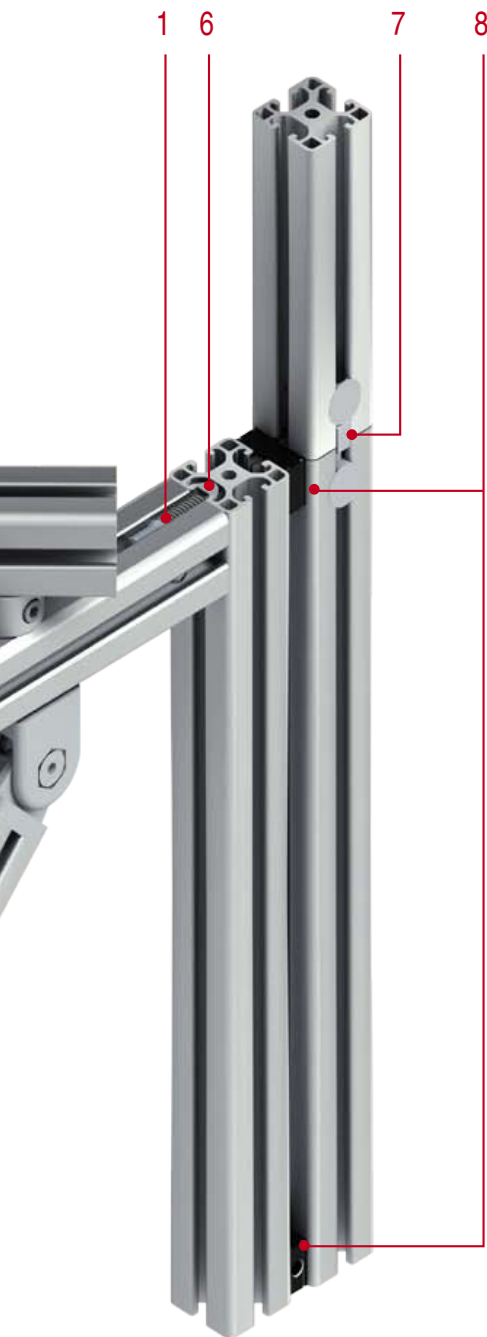
Butt Fasteners

Parallel-Profile Connections

Secure Connections

Application example – fastening technology  
Connecting profiles





## 1 Right-angled connections

- Fastening sets for the rapid and stable assembly of profiles
- Numerous variants for each application
- Innovative fastening sets for power-locking connections without profile machining



77

Section **2**

## 2 Cross-profile connections

- Power-lock connection between profiles that cross
- Adjustable to desired angle
- Solutions for rapid angle adjustment



112

Section **2**

## 3 Angle Fasteners

- Hinges and fasteners for constructions with non-standard angle measurements
- Angle elements for stable and lightweight latticework
- Adjustable solutions for the rapid installation of supporting struts



105

Section **2**

## 4 Corner fasteners

- Connect up to three profiles to form one corner unit
- For building tables, display cases and hoods
- Versatile design options thanks to various angles and caps



99

Section **2**

## 5 Angle Bracket Sets

- Additional hold without profile machining for load-bearing supports
- Wide selection ranging from simple angle brackets to heavy-duty anchor points
- Models with caps for a closed look and easy cleaning



90

Section **2**

## 6 T-Slot Nuts

- For fastening components
- Suitable for appropriate profile size
- Versions with different load-carrying capacities as required for specific applications



130

Section **3**

## 7 Butt fasteners

- For extending profiles
- Simple end-face connections
- Also suitable for use with mitre cuts



118

Section **2**

## 8 Parallel fasteners

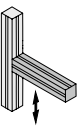








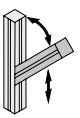





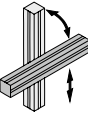









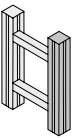



- Connect parallel profiles to make an exceptionally stable unit
- Available in various sizes and strengths
- Connection Profiles for extremely strong struts



123

Section **2**

## Overview – finding the right fastener fast

Configuration	Application	Product
<b>Right-angled profile connections</b>		
	Extremely rapid and repositionable profile connections with no machining	Automatic-Fastening Sets  77
	High-strength and repositionable screw connections with minimal assembly requirements	Universal-Fastening Sets  79
	Cost-effective and fixed connection	Standard-Fastening Sets  82
	Flexible and rapid construction of frames for panel elements	Central-Fastening Sets  123
	Rapid profile connection with simple angle adjustment system	Click-Fastening Set 90°  88
	Right-angled profile connections at any angle of rotation	Direct-Fastening Set 90°  89
	Extra hold for load-bearing support profiles without additional profile machining	Angle Bracket Zn  90
	Simple connection of three profiles to form one corner unit	Corner Fastening Sets  99
<b>Connections at various angles</b>		
	Construction of load-carrying latticework and supporting struts at a 45° angle	Angle Elements  105
	Construction of fixable tool rails or load-carrying hinges	Hinges, heavy-duty  107
	Permanent swivel capability and secure connection	Ball-Bearing Hinge  109
	Easily adjustable fastening for lightweight attachments	Ball joint  110
	Movable profile connections at any angle	Mitre-Fastening Sets  111
<b>Cross-profile connections</b>		
	Power-lock connection between profiles that cross	Direct-Fastening Sets  112
	Rapid fixing of struts at any (variable) position with minimal assembly requirements	Click-Fastening Sets  113
	Cost-effective angled fixing	Face Fastening Set  114
	Secure and fixed connection between profiles that cross	Angle Clamp Brackets  116
	Shelves with high load-carrying capacity and extremely easy-to-use angle adjustment system	Angle Locking Bracket  117
<b>Butt fasteners for extending lengths</b>		
	High load-carrying capacity with average machining requirements	Universal-Butt-Fastening Sets  118
	Medium load-carrying capacity with no profile machining	Automatic Butt-Fastening Sets  120
	Fastening mitre-cut profiles to frames	Mitre-Butt-Fastening Sets  122
<b>Parallel fasteners for adjoining profiles</b>		
	Gap-free assembly with moderate profile machining	Central-Fastening Sets  123
	Partition assembly with small gaps and no profile machining	Parallel-Fastening Sets  124
	Strong, continuous struts for profile constructions with exceptional load-carrying capacity	Connecting Profiles  125



### Note:

Technical data on fastening technology can be found in Section 19.

In addition to fasteners for profiles, the catalogue also contains additional fastening elements:

T-Slot Nuts – for universal fastening to the profile groove

Section 3

Panel Fasteners – for installing panels in profile constructions

Section 5

Floor elements – for fastening profiles to a floor or wall.

Section 11

## Fastening technology

### Products in this section



#### Automatic-Fastening Sets

- No profile machining required
- For stable, repositionable connections

877



#### Universal-Fastening Sets

- For stable, repositionable connections
- Minimal assembly requirements

79



#### Standard-Fastening Sets

- For a fixed profile connection
- Outstanding resistance to displacement and torsion

82



#### Automatic-Fastening Set 8 N

- For profiles with closed grooves
- Surfaces stay easy to clean

86



#### Central-Fastening Sets

- For building frames for panel elements
- Repositionable connection with a stand profile

87



#### Click-Fastening Set 8 90°

- Connect profiles at any angle of rotation
- Ideal for prototypes and temporary structures

88



#### Direct-Fastening Set 8 90°

- Right-angled connection at any angle of rotation
- Power-locking profile connection

89



#### Angle Brackets

- Reinforcement for profile connections
- Power-lock connection with no profile machining

90



#### Corner Fastening Sets

- Connect three profiles to form one corner unit
- Stylish covers in various shapes

99



#### Angle Elements

- Latticework reinforcement for profile constructions
- Profile connection at a 45° angle

105



#### Hinges, heavy-duty

- Stable connection at any angle of adjustment from 0° to 180°
- Clamp lever enables rapid adjustment

107



#### Ball-Bearing Hinge 8 40x40

- Enables movement through up to 180°
- Wear-resistant and robust

109



#### Ball Joint 8

- Two-dimensional pivoting
- Available with optional clamp lever for rapid adjustment

110



#### Mitre-Fastening Sets

- At any angle from 30° to 90°
- The profile groove stays free to accommodate panel elements

111



#### Click-Fastening Set 8

- For fitting profiles that cross at any position
- For assembling struts quickly, no machining required

113



#### Face Fastening Set 8

- Toothed fastener for inclined working and storage surfaces
- Angle adjustment in 5° increments

114



#### Angle Hinge Brackets, Angle Clamp Brackets

- Simple fixing for profiles that cross
- Angle adjustment via Angle Clamp Bracket

115



#### Angle Locking Bracket 8 80x40

- Angular adjustment without tools
- Secure, rigid connection

117



#### Butt-Fastening Sets

- Connect identical profiles via their end faces
- No profile machining necessary

120



#### Mitre-Butt-Fastening Sets

- Connect two profiles with the same mitre angle
- Overall angle of 60° to 180° possible

122



#### Central-Fastening Set P 8

- Connect two parallel Profiles 8
- Flush connection for partitioning and room dividers

123



#### Parallel Fastener

- Connect two parallel Profiles 8
- No machining required
- Easy to use thanks to snap-in function

124



#### Connecting Profiles

- Simple engineering for stable composite profiles
- For open and closed supports
- No machining required

125



#### Pin Elements

- Additional rigidity from dowel pin
- Excellent resistance against impact and overload

127



#### Note:

Technical data on fastening technology can be found in Section 19.





## Automatic-Fastening Sets

The fastest and most flexible profile connection

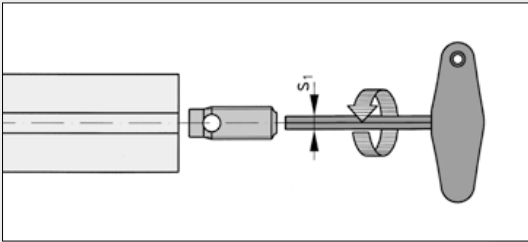
- No additional profile machining required
- For a profile connection that is stable and can also be repositioned
- Outstanding resistance to displacement, torsion and deflection



The Automatic-Fastening Set is an innovative solution for power-lock connections between profiles. Because no profile machining is required, it can be fitted quickly and easily. Due to the special design of the fasteners in the set, screw connections are all that is needed to fix them in place. They can be retrofitted to structures and repositioned in a matter of moments.

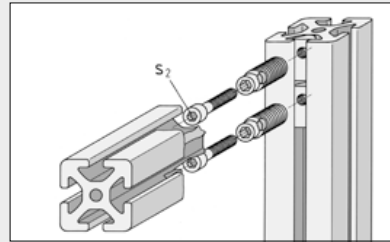
Automatic Fasteners can withstand the heaviest loads. A stainless steel version is also available for special requirements.

The Automatic-Fastening Set ensures that design engineers benefit from maximum design flexibility without having to compromise on stability.

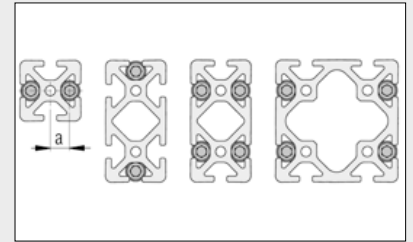


The Fastener is screwed into a profile groove in the end face, the thread being cut automatically. Use of a lubricant is recommended.

Note: All Fasteners with a through bore for the fastening screw have a counter-clockwise thread on the outside in order to prevent the Fastener twisting when the screw is tightened.



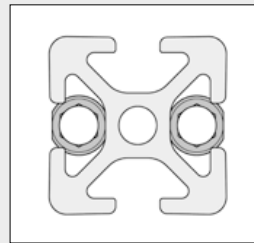
L-Keys from item are the ideal tool for tightening the screws of the Automatic-Fastening Set (tightening torque M).



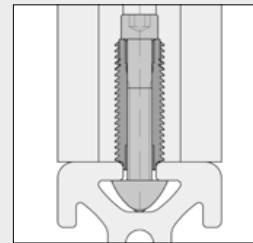
Automatic-Fastening Sets should always be used in pairs.

Automatic-Fastening Set

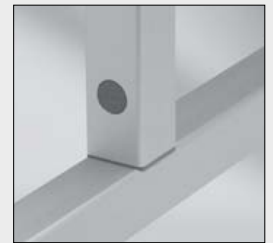
	5	6	8	10	12
a [mm]	6.8	9.5	13.2	16.2	19.5
s <sub>1</sub>	4 A/F	5 A/F	6 A/F	8 A/F	8 A/F
s <sub>2</sub>	3 A/F	4 A/F	5 A/F	5 A/F	6 A/F



Automatic-Fastening Set 5 should be inserted so that the flattening on the thread is flush with the outer edge of the profile.

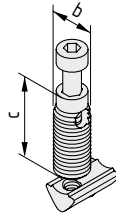


Automatic-Fastening Sets 6, 8, 10 and 12 also have an anti-torsion feature. Once the profile has been pre-assembled, this feature can be deployed by unscrewing the fastener sufficiently so that the end of it projects into the profile groove.



A special version of the Automatic-Fastening Set is available for Profile 8 with closed grooves (which can be opened up).

Automatic-Fastening Set 8 N 85



The following applies to all the sets below:

Automatic Fastener, St  
Hexagon Socket Head Cap Screw, St  
T-Slot Nut St

#### Automatic-Fastening Set 5

b = 7 mm c = 24 mm  $M_{\text{bright zinc-plated}} = 2.5 \text{ Nm}$  m = 8.0 g  
bright zinc-plated, 1 set 0.0.391.60

#### Automatic-Fastening Set 5

b = 7 mm c = 24 mm  $M_{\text{stainless}} = 2.5 \text{ Nm}$  m = 8.0 g  
stainless, 1 set 0.0.437.46

#### Automatic-Fastening Set 6

b = 10 mm c = 27 mm  $M_{\text{bright zinc-plated}} = 8.0 \text{ Nm}$  m = 18.0 g  
bright zinc-plated, 1 set 0.0.419.71

#### Automatic-Fastening Set 6

b = 10 mm c = 27 mm  $M_{\text{stainless}} = 6.5 \text{ Nm}$  m = 18.0 g  
stainless, 1 set 0.0.441.67

#### Automatic-Fastening Set 8

b = 12 mm c = 31 mm  $M_{\text{bright zinc-plated}} = 14 \text{ Nm}$  m = 35.0 g  
bright zinc-plated, 1 set 0.0.388.08

#### Automatic-Fastening Set 8

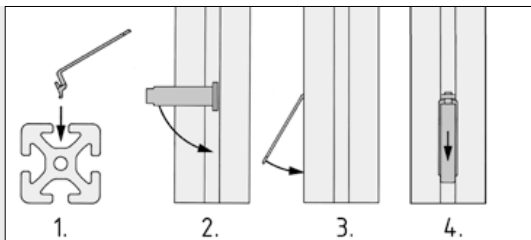
b = 12 mm c = 31 mm  $M_{\text{stainless}} = 11 \text{ Nm}$  m = 35.0 g  
stainless, 1 set 0.0.440.58

#### Automatic-Fastening Set 10

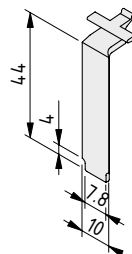
b = 15 mm c = 39 mm  $M_{\text{bright zinc-plated}} = 25 \text{ Nm}$  m = 69.5 g  
bright zinc-plated, 1 set 0.0.624.74

#### Automatic-Fastening Set 12

b = 18 mm c = 47 mm  $M_{\text{bright zinc-plated}} = 34 \text{ Nm}$  m = 125.0 g  
bright zinc-plated, 1 set 0.0.003.50



A cover is available for Automatic-Fastening Set 8. It is fitted after the fastening has been installed.



#### Automatic-Fastening Set 8 Cap

PA-GF  
m = 0.7 g  
black, similar to RAL 9005, 1 pce. 0.0.388.66  
grey similar to RAL 7042, 1 pce. 0.0.616.31





## Universal-Fastening Sets

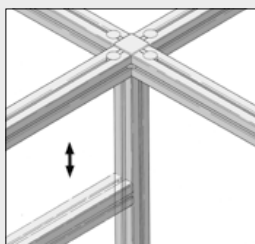
The high-strength and flexible profile connection

- For a profile connection that is stable and can also be repositioned
- Outstanding resistance to displacement, torsion and deflection
- Minimal assembly requirements – just one hole to cut

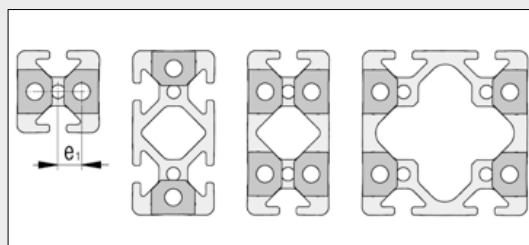
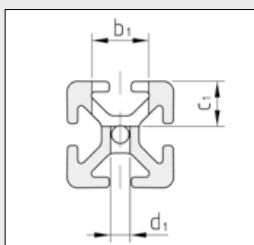
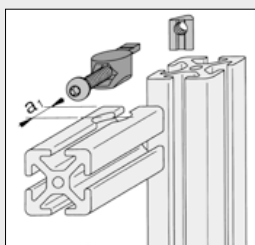


When it comes to creating flexible and strong profile connections, the Universal-Fastening Sets from item are an excellent choice. They are anchored via a single hole cut into one profile, while the fastening in the second profile can be repositioned at any time. As a result, they can also be installed in existing constructions.

Universal Fasteners made from cast stainless steel are exceptionally resistant to strong forces, changes in temperature and vibrations. They are also ideal for use in outdoor areas and cleanrooms.



Where required, the anti-torsion pin of the Universal Fastener can be broken off at a specified breakpoint. This Universal-Fastening Set can thus also be used to secure profiles to e.g. panels.



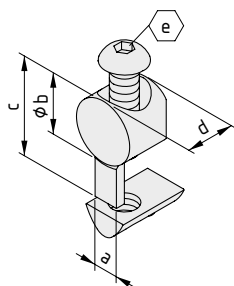
Universal-Fastening Sets should always be used in pairs.

Universal-Fastening Set

	5	6	8	10	12
$a_1$	10.0 mm	15.0 mm	20.0 mm	25.0 mm	30.0 mm
$b_1$	Ø 12.0 mm	Ø 16.0 mm	Ø 20.0 mm	Ø 25.0 mm	Ø 30.0 mm
$c_1$	8.5 mm	12.7 mm	16.0 mm	20.0 mm	24.0 mm
$d_1$	Ø 4.3 mm	Ø 5.5 mm	Ø 7.0 mm	Ø 9.0 mm	Ø 12.0 mm
$e_1$	5.8 mm	8.7 mm	12.0 mm	15.1 mm	17.8 mm

The following applies to all the sets below:

Universal Fastener, die-cast zinc  
Screw, St  
T-Slot Nut, St



Universal-Fastening Set 5

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	$M_{bz-p}$ [Nm]	m [g]
5	12	17.2	8.5	3	3	7.0
bright zinc-plated, 1 set						0.0.370.27

Universal-Fastening Set 5

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	$M_{stainl.}$ [Nm]	m [g]
5	12	17.2	8.5	3	2.4	7.0
stainless, 1 set						0.0.437.52

**Universal-Fastening Set 6**


a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	M <sub>bz-p</sub> [Nm]	m [g]
6.2	16	25.2	12.6	4	8	18.0
bright zinc-plated, 1 set						0.0.419.52

**Universal-Fastening Set 6**


a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	M <sub>stainl.</sub> [Nm]	m [g]
6.2	16	25.2	12.6	4	6.5	18.0
stainless, 1 set						0.0.441.74

**Universal-Fastening Set 8**


a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	M <sub>bz-p</sub> [Nm]	m [g]
8	20	33.5	16	5	25	41.0
bright zinc-plated, 1 set						0.0.026.92

**Universal-Fastening Set 8**


a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	M <sub>stainl.</sub> [Nm]	m [g]
8	20	33.5	16	5	20	41.0
stainless, 1 set						0.0.444.18

**Universal-Fastening Set 8 St**


Universal Fastener St, stainless

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	M <sub>bz-p</sub> [Nm]	m [g]
8	20	32.5	16	5	25	45.0
bright zinc-plated, 1 set						0.0.488.60

**Universal-Fastening Set 8 St**


Universal Fastener St, stainless

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	M <sub>stainl.</sub> [Nm]	m [g]
8	20	32.5	16	5	20	45.0
stainless, 1 set						0.0.488.51

**Universal-Fastening Set 10**

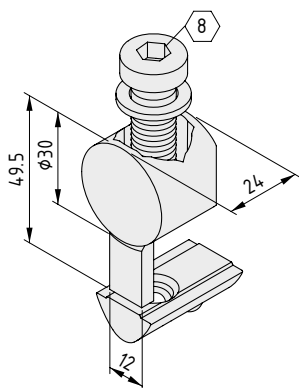

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	M <sub>bz-p</sub> [Nm]	m [g]
10	25	41	20	6	46	97.4
bright zinc-plated, 1 set						0.0.632.07

**Universal-Fastening Set 12**


Universal Fastener 12, die-cast zinc  
Hexagon Socket Head Cap Screw DIN 7984-M12x45, St  
Washer DIN 433-13, St  
T-Slot Nut 12 St M12

M<sub>bright zinc-plated</sub> = 60 Nm      m = 155.0 g

bright zinc-plated, 1 set						0.0.003.57
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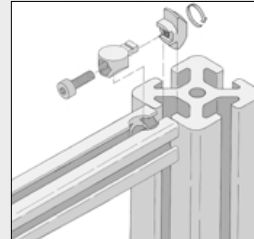
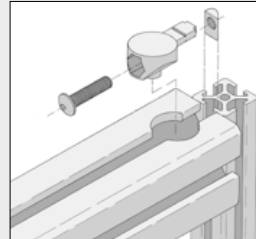


## Universal-Fastening Sets 5/8 and 8/5

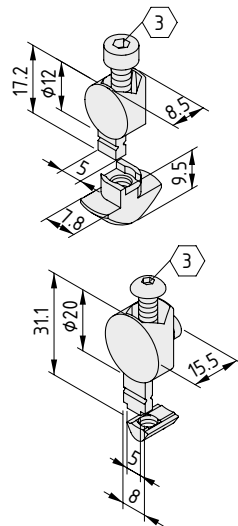
- For connecting together profiles from Lines 5 and 8
- Suitable for retrofitting and repositionable



For universal power-lock interconnection of Profiles 5 and Profiles 8. Suitable for profiles which need to be moved subsequently, since only one profile is processed. These Fastening Sets can be installed easily into existing constructions. Connection processing of the profiles is the same as for the Universal-Fastening Sets.



Universal-Fastening Sets should always be used in pairs. Where required, the anti-torsion pin of the Universal Fastener can be broken off at a specified breakpoint.



### Universal-Fastening Set 5/8



Universal Fastener 5, die-cast zinc  
Hexagon Socket Head Cap Screw DIN 912-M4x18, St  
Special T-Slot Nut 8 Zn M4

$M_{\text{bright zinc-plated}} = 3 \text{ Nm}$   $m = 9.0 \text{ g}$

bright zinc-plated, 1 set

0.0.370.34

### Universal-Fastening Set 8/5



Universal Fastener 8/5, die-cast zinc  
Button-Head Screw ISO 7380-M5x25, St  
T-Slot Nut 5 St M5

$M_{\text{bright zinc-plated}} = 3 \text{ Nm}$   $m = 18.0 \text{ g}$

bright zinc-plated, 1 set

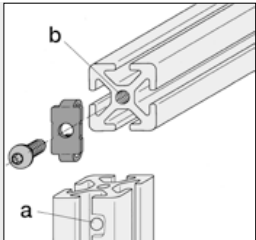
0.0.370.25



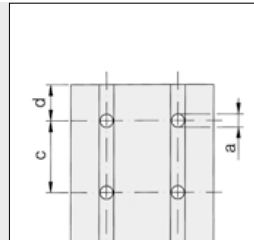
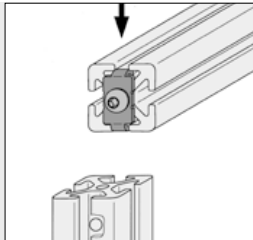
## Standard-Fastening Sets

**Stable, fixed screw connection for profiles**

- For a fixed profile connection
- Outstanding resistance to displacement and torsion



The necessary thread is tapped directly into the core bore of the profiles.



Position of the through holes for the key.

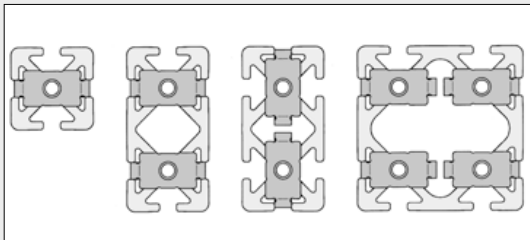


Standard-Fastening Set ESD is used in the same way as a conventional Standard-Fastening Set. The special design of the fastening screw partially destroys the insulating anodized layer on the profile groove and creates an electrical contact between the connected profiles.

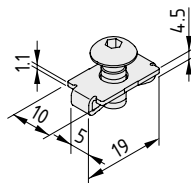
For better identification, fastening elements ESD are given a yellow passivation layer in compliance with Directive 2002/95/EC ("RoHS").

### Standard-Fastening Set

	5	6	8	8 E	10	12
a	Ø 4.3 mm	Ø 5.5 mm	Ø 7 mm	Ø 7 mm	Ø 9 mm	Ø 11.5 mm
b	M5 12 mm deep	M6 15 mm deep	M8 16 mm deep	-	M10 22 mm deep	M12 30 mm deep
c	20 mm	30 mm	40 mm	40 mm	50 mm	60 mm
d	10 mm	15 mm	20 mm	20 mm	25 mm	30 mm



The standard connecting plates can be arranged in the required direction to match the way in which the profiles are fitted. Large profiles with high load-bearing capabilities can be connected using a larger number of Standard Fasteners.



### Standard-Fastening Set 5



Standard connecting plate 5, St  
Special Button-Head Screw similar to ISO 7380-M5x12, St  
 $M_{\text{bright zinc-plated}} = 4.5 \text{ Nm}$   $m = 4.0 \text{ g}$

bright zinc-plated, 1 set

0.0.370.08

### Standard-Fastening Set 5



$M_{\text{stainless}} = 3.6 \text{ Nm}$   $m = 4.0 \text{ g}$

stainless, 1 set

0.0.437.49

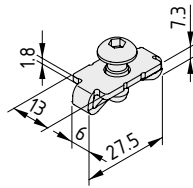
### Standard-Fastening Set 5 ESD



$M_{\text{bright zinc-plated}} = 4.5 \text{ Nm}$   $m = 4.0 \text{ g}$

bright zinc-plated, 1 set

0.0.612.14

**Standard-Fastening Set 6**

Standard connecting plate 6, St  
 Special Button-Head Screw similar to ISO 7380-M6x14, St  
 $M_{\text{bright zinc-plated}} = 10 \text{ Nm}$      $m = 9.0 \text{ g}$

bright zinc-plated, 1 set

0.0.419.14

**Standard-Fastening Set 6**

$M_{\text{stainless}} = 8 \text{ Nm}$      $m = 9.0 \text{ g}$

stainless, 1 set

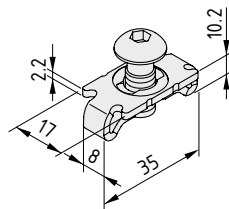
0.0.439.10

**Standard-Fastening Set 6 ESD**

$M_{\text{bright zinc-plated}} = 10 \text{ Nm}$      $m = 9.0 \text{ g}$

bright zinc-plated, 1 set

0.0.612.04

**Standard-Fastening Set 8**

Standard connecting plate 8, St  
 Special Button-Head Screw similar to ISO 7380-M8x20, St  
 $M_{\text{bright zinc-plated}} = 25 \text{ Nm}$      $m = 21.0 \text{ g}$

bright zinc-plated, 1 set

0.0.026.07

**Standard-Fastening Set 8**

$M_{\text{stainless}} = 20 \text{ Nm}$      $m = 21.0 \text{ g}$

stainless, 1 set

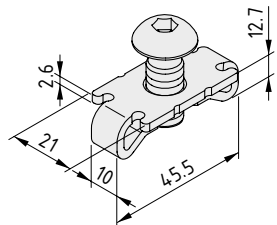
0.0.388.79

**Standard-Fastening Set 8 ESD**

$M_{\text{bright zinc-plated}} = 25 \text{ Nm}$      $m = 21.0 \text{ g}$

bright zinc-plated, 1 set

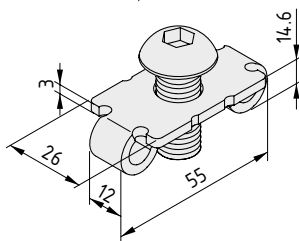
0.0.610.11

**Standard-Fastening Set 10**

Standard connecting plate 10, St  
 Special Button-Head Screw similar to ISO 7380-M10x25, St  
 $M_{\text{bright zinc-plated}} = 46 \text{ Nm}$      $m = 43.2 \text{ g}$

bright zinc-plated, 1 set

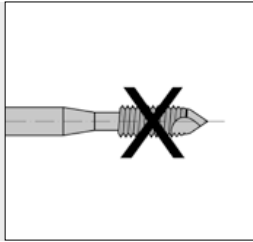
0.0.625.08

**Standard-Fastening Set 12**

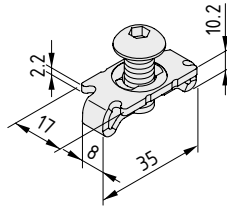
Standard connecting plate 12, St  
 Special Button-Head Screw similar to ISO 7380-M12x30, St  
 $M_{\text{bright zinc-plated}} = 80 \text{ Nm}$      $m = 70.0 \text{ g}$

bright zinc-plated, 1 set

0.0.003.35



For connections with slightly reduced loading, Line 8 features Standard-Fastening Set 8 E with a self-threading special screw which further reduces the machining requirement.



#### Standard-Fastening Set 8 E



Standard connecting plate 8, St  
Self-threading, Button-Head Screw, head shape similar to ISO 7380-M7.3x20, St  
 $M_{\text{bright zinc-plated}} = 20 \text{ Nm}$        $m = 20.0 \text{ g}$

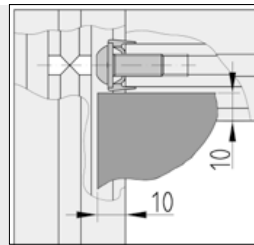
bright zinc-plated, 1 set

0.0.421.75

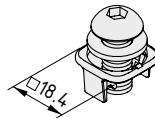


Standard-Fastening Set 8 K is a special version of the proven Standard-Fastening Set. It is employed for right-angled connection of Line 8 Profiles in which the profile grooves are used for holding panel elements.

Panel elements can be slid into the profile groove without needing cutouts in the corners.



We recommend that panel elements be inserted to a depth of 10 mm into a Profile 8 groove.



#### Standard-Fastening Set 8 K



Spacer, POM, black  
Washer ISO 7089-8, St, bright zinc-plated  
Button-Head Screw ISO 7380-M8x20, St, bright zinc-plated  
 $M = 25 \text{ Nm}$        $m = 11.0 \text{ g}$

1 set

0.0.488.07

#### Standard-Fastening Set 8 K ESD



Spacer, POM, black  
Washer D9/D16-1.6, St, bright zinc-plated  
Button-Head Screw M8x20 ESD, St, bright zinc-plated  
 $M = 25 \text{ Nm}$        $m = 11.0 \text{ g}$

1 set

0.0.625.33

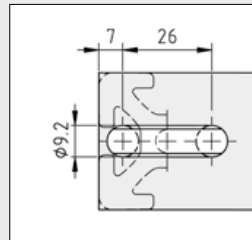
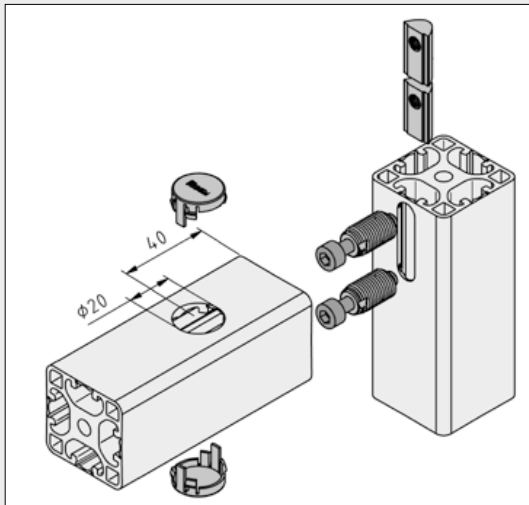


## Automatic-Fastening Set 8 N

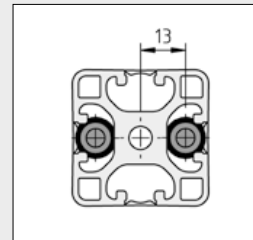
- For rectangular profiles with closed grooves
- Surfaces stay easy to clean



Special form of the Automatic-Fastening Set for installation in profiles with closed grooves. The groove is opened as shown below.



Opening the closed groove of a Line 8 Profile in order to insert the T-Slot Nuts of two Automatic-Fastening Sets 8 N.



Automatic-Fastening Sets should always be used in pairs.



The fastener is located inside the profile cavity. To access the fastening screw just drill a hole into the profile. The grey Cap is used to close the hole.

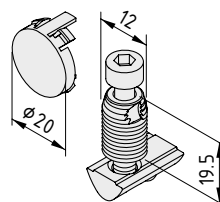
A T-Slot Nut is inserted into the groove in the second profile and forms the counterpart for the Automatic Fastener screw. If this groove in the second profile is also closed, the T-Slot Nut must be inserted from either the profile's end face or through a larger opening in the groove cover created beforehand.



### Note:

A special 5 A/F N L-Key is available for tightening the screw connection of Automatic-Fastening Sets 8 N.

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### Automatic-Fastening Set 8 N

Automatic Fastener 8 N, St, black  
 Cap, PA grey  
 Hexagon Socket Head Cap Screw M6x30, St, bright zinc-plated  
 T-Slot Nut V 8 St M6, bright zinc-plated  
 M = 14 Nm      m = 27.0 g

1 set

0.0.489.96



## Automatic-Fastening Set 8 N D40

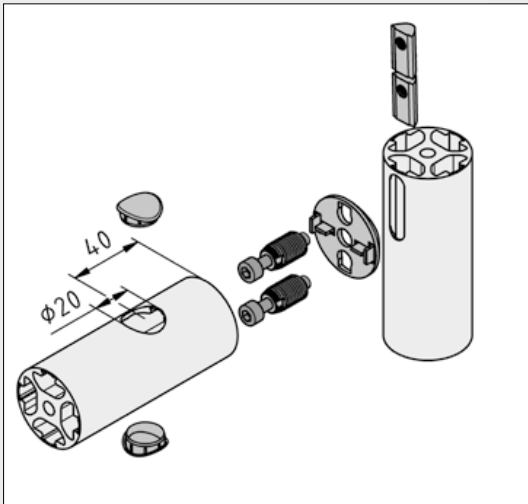
- Connect cylindrical Profiles 8 D40
- Suitable for open and closed grooves



Automatic-Fastening Set 8 N D40 can be used for connecting Profiles 8 D40 to other Profiles 8 D40 or – if an Adapter 8 D40 is used – to Profiles 8 with rectangular cross-sections.

When used with Profiles 8 that have closed grooves, a hole with a diameter of 20 mm must be cut into the profile, 40 mm from the profile end face, for the fastening screw.

However, when used with profiles that have open grooves, there is no need to machine the profiles. The self-tapping Automatic Fastener is simply driven into the profile groove from the end face.



Automatic-Fastening Set 8 N D40 can be used to connect Profiles 8 with both open and closed grooves (where designed for opening). To cover the mounting bore in the side face of profiles with closed grooves, Automatic-Fastening Set 8 N D40 contains Caps for Profiles 8 with rectangular and round cross-sections. Depending on the profile attached, the Cap with a rounded or flat outer contour will be used. In the case of Profiles 8 with open grooves, no bore is needed. Consequently, the Caps are not required in this instance.

The length of the screw in Automatic-Fastening Set 8 N D40 is matched to the thickness of Adapter 8 D40. The full length of the thread is therefore available in order to ensure that the maximum fastening force is applied.

Adapter 8 D40

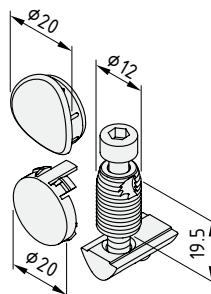
104



### Note:

A special 5 A/F N L-Key is available for tightening the screw connection of Automatic-Fastening Sets 8 N.

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### Automatic-Fastening Set 8 N D40



Automatic Fastener 8 N, St, black  
2 caps, PA grey  
Hexagon Socket Head Cap Screw M6x32, St, bright zinc-plated  
T-Slot Nut V 8 St M6, bright zinc-plated  
M = 14 Nm m = 28.5 g

1 set

0.0.493.91

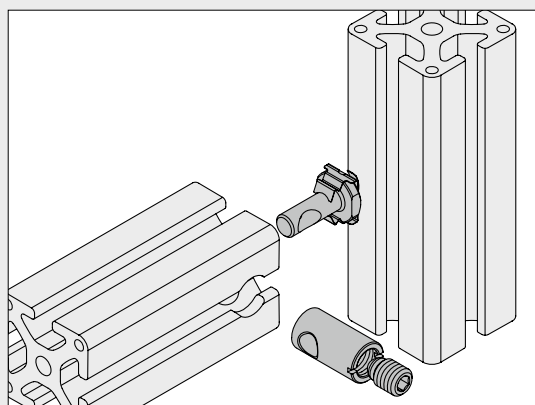
## Central-Fastening Set

- For building frames for panel elements
- Flexible connection with a stand profile
- Medium resistance to displacement

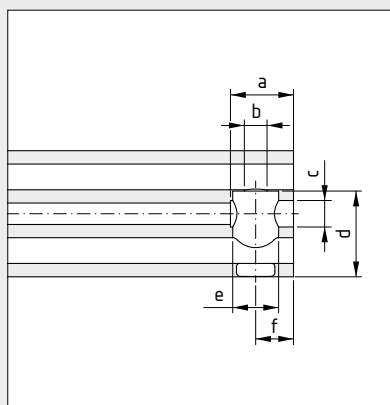


The Central-Fastening Set connects profiles at right angles to each other and leaves the grooves that are facing each other completely free. This is useful when the profile grooves are

to accommodate a panel element. It eliminates the need to specially machine the corner areas of the panel element, which instead can be inserted directly into the grooves.



Due to the reduced clamping force and the lack of any anti-torsion feature between the profiles, this fastening set should only be used in combination with panel elements in the profile groove and only for profile connections subject to low loads. Where more stringent requirements need to be satisfied and parts are important for safety considerations, it is advisable to use the proven fastening techniques for basic constructions (Standard-Fastening, Universal-Fastening or Automatic-Fastening Sets).



The profile to be connected via its end face needs to be machined before the Central-Fastening Set can be used.

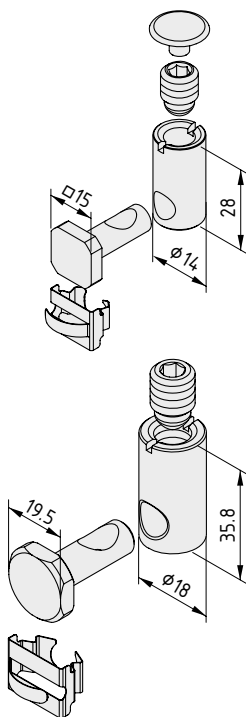
The hole to accommodate Central-Fastening Set 8 should be produced with Step Drill D14.2 (0.0.492.60).

The hole to accommodate Central-Fastening Set 10 should be produced with Step Drill D18.2 (0.0.632.75).

### Central-Fastening Set

	a	b	c	d	e	f
8	20 mm	Ø 7 mm	Ø 8.2 mm	26.7 mm	Ø 14.2 mm	12/11 mm*
10	25 mm	Ø 9 mm	Ø 10.5 mm	34 mm	Ø 18.2 mm	15 mm

\* When using Radius Seals in combination with Central-Fastening Set 8, the distance between the hole and the end face of the profile should be reduced from 12 mm to 11 mm.



### Central-Fastening Set 8



Clamping pin, St, bright zinc-plated  
Clamping spring, St, stainless  
Sleeve with bore, St, bright zinc-plated  
Grub screw M10, St, bright zinc-plated  
Cap, PA grey  
M = 15 Nm      m = 35.0 g

1 set

0.0.494.15

### Central-Fastening Set 10



Clamping pin, St, bright zinc-plated  
Spring element, St, stainless  
Sleeve with bore, St, bright zinc-plated  
Grub screw M12, St, bright zinc-plated  
M = 22 Nm      m = 87.0 g

bright zinc-plated, 1 set

0.0.632.74

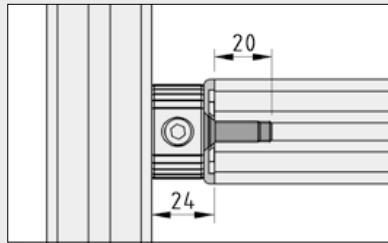
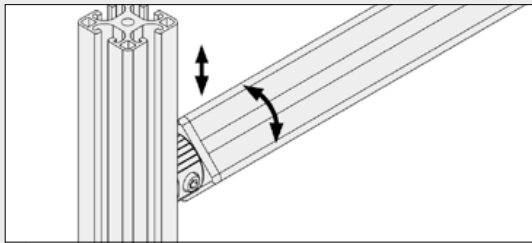


## Click-Fastening Set 8 90°

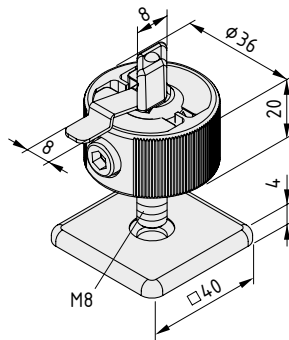
- For simple and flexible constructions
- Connect profiles at any angle of rotation
- Repositionable
- Ideal for prototypes and temporary structures



One click and it's ready – it really can be that easy to fit a strut. The practical Click Fastening Set connects together profiles at any point and at virtually any angle of rotation. Profile sections can be easily added to existing constructions and used as reusable, variable struts. That makes the Click-Fastening Set particularly useful when building temporary structures. Modifications can also be made quickly and easily.



To use Click-Fastening Set 8 90°, the core bore of the Profile 8 connected via the end face must have an M8x20 tapped hole. In this case, the distance between the end face of the profile and the side of the second profile is 24 mm.



### Click-Fastening Set 8 90°



Clamping profile Al, natural  
Clamping elements, St, stainless  
Locking strip, St, stainless  
Hex. Socket Head Cap Screw M6x25, St, bright zinc-plated  
Tensioning screw M8, St, bright zinc-plated  
Cap 8 40x40, die-cast zinc, white aluminium  
m = 125.0 g

1 set

0.0.606.94

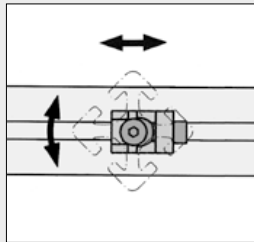


## Direct-Fastening Set 8 90°

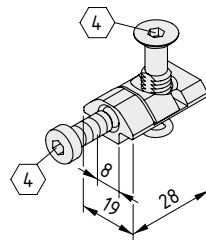
- Right-angled profile connections
- Connections possible at any angle of rotation



Direct-Fastening Set 8 90° is used for right-angled connection of Profiles 8. The profile can be secured at the end face and at any angle. The core bore must have an M8x16 thread.



Direct-Fastening Set 8 90° is particularly suitable when a repositionable connection is required with a profile that has one or more closed grooves and Universal or Automatic Fasteners cannot be used.

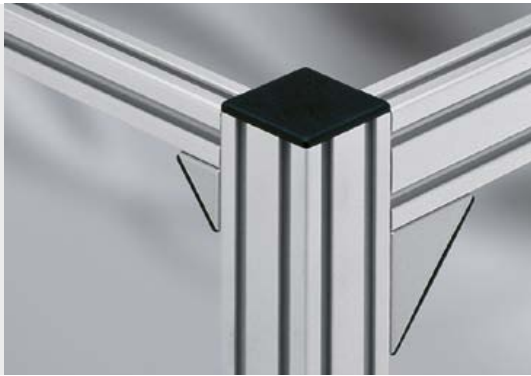


### Direct-Fastening Set 8 90°



Fastener, die-cast steel  
 Countersunk Screw M8x27, St  
 O-ring, NBR, black  
 Hexagon Socket Head Cap Screw DIN 7984-M6x14, St  
 $M_{\text{stainless}} = 5.5 \text{ Nm}$   $m = 30.0 \text{ g}$   
 stainless, 1 set

0.0.388.67



## Angle Bracket Zn

Simple, stable connection

- Reinforcement for profile connections
- Power-lock connection with no profile machining
- Can be retrofitted rapidly
- Products from Line X also available



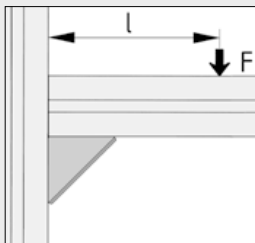
To ensure Angle Bracket installation is particularly straightforward, it is advisable to use the Angle Bracket Sets containing the corresponding screws and special washers.



Angle Brackets are ideal for connecting cable conduits. The rounded internal edge prevents damage to the cables.



Specially designed Angle Brackets X 8 are available for profile constructions built with Line X.



When used to reinforce the joints of large profiles or conduits, several Angle Brackets can be used in parallel.

Note: Ensure the maximum permissible tensile load on the Profile Groove is not exceeded!

Note: For Angle Brackets of Lines 6, 8 and 12, special square washers are used to improve the application of the clamping force.

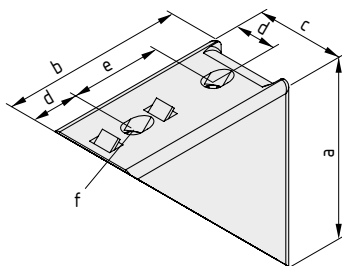
Angle Bracket 5	20x20 Zn	$F < 250 \text{ N} \wedge F \times l < 5 \text{ Nm}$
Angle Bracket 5	40x40 Zn	$F < 500 \text{ N} \wedge F \times l < 25 \text{ Nm}$
Angle Bracket 6	30x30 Zn	$F < 500 \text{ N} \wedge F \times l < 12 \text{ Nm}$
Angle Bracket 6	60x60 Zn	$F < 1,000 \text{ N} \wedge F \times l < 36 \text{ Nm}$
Angle Bracket (X) 8	40x40 Zn	$F < 1,000 \text{ N} \wedge F \times l < 50 \text{ Nm}$
Angle Bracket (X) 8	80x80 Zn	$F < 2,000 \text{ N} \wedge F \times l < 150 \text{ Nm}$
Angle Bracket 8	160x80 Zn	$F < 2,000 \text{ N} \wedge F \times l < 150 \text{ Nm}$
Angle Bracket 10	50x50 Zn	$F < 1,500 \text{ N} \wedge F \times l < 75 \text{ Nm}$
Angle Bracket 10	100x100 Zn	$F < 3,000 \text{ N} \wedge F \times l < 200 \text{ Nm}$
Angle Bracket 12	60x60 Zn	$F < 2,000 \text{ N} \wedge F \times l < 100 \text{ Nm}$
Angle Bracket 12	120x120 Zn	$F < 4,000 \text{ N} \wedge F \times l < 250 \text{ Nm}$

The load-carrying capacity is to be checked to ensure both conditions are met.



Materials used in all the following products:

Die-cast zinc



#### Angle Bracket 5 20x20 Zn



a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
20	20	20	10	-	Ø5.3	14.0

white aluminium, similar to RAL 9006, 1 pce.

0.0.425.03

#### Angle Bracket 5 40x40 Zn



a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
40	40	20	10	20	Ø5.3	39.0

white aluminium, similar to RAL 9006, 1 pce.

0.0.425.06

#### Angle Bracket 6 30x30 Zn



a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
30	30	30	15	-	Ø6.6	47.0

white aluminium, similar to RAL 9006, 1 pce.

0.0.419.63

#### Angle Bracket 6 60x60 Zn



a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
60	60	30	15	30	Ø6.6	130.0

white aluminium, similar to RAL 9006, 1 pce.

0.0.419.65

#### Angle Bracket 8 40x40 Zn



a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
40	40	40	20	-	Ø8.2	119.0

white aluminium, similar to RAL 9006, 1 pce.

0.0.411.24

#### Angle Bracket 8 80x80 Zn



a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
80	80	40	20	40	Ø8.2	270.0

white aluminium, similar to RAL 9006, 1 pce.

0.0.411.23

#### Angle Bracket 8 160x80 Zn



a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
80	160	40	20	40	Ø8.2	530.0

white aluminium, similar to RAL 9006, 1 pce.

0.0.436.23

#### Angle Bracket 12 60x60 Zn



a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
60	60	60	30	-	Ø12.5	350.0

white aluminium, similar to RAL 9006, 1 pce.

0.0.003.20

#### Angle Bracket 12 120x120 Zn



a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
120	120	60	30	60	Ø12.5	900.0

white aluminium, similar to RAL 9006, 1 pce.

0.0.003.21

Angle Bracket	Item No.
6 30x30	0.0.491.43
6 60x60	0.0.491.43
8 40x40	0.0.494.45
8 80x80	0.0.494.45
8 160x80	0.0.416.11

Angle Brackets should always be used with the appropriate washers.

**Washer 10.5x10.5x1.3**

St

m = 0.6 g

bright zinc-plated, 1 pce. 0.0.491.43

**Washer 13.5x9x1**

St

m = 0.6 g

bright zinc-plated, 1 pce. 0.0.416.11

**Washer 13.9x13.9x2**

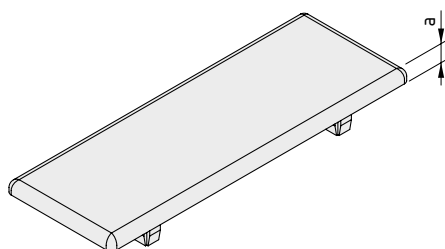
St

m = 1.7 g m = 175 g/100

bright zinc-plated, 1 pce. 0.0.494.45

Materials used in all the following products:

PA-GF


**Angle Bracket Cap 5 20x20**


a = 2.5 mm m = 1.0 g

black, 1 pce. 0.0.425.04

**Angle Bracket Cap 5 40x40**


a = 2.5 mm m = 3.0 g

black, 1 pce. 0.0.425.07

**Angle Bracket Cap 6 30x30**


a = 3.0 mm m = 4.0 g

black, 1 pce. 0.0.419.64

**Angle Bracket Cap 6 60x60**


a = 3.0 mm m = 7.0 g

black, 1 pce. 0.0.419.66

**Angle Bracket Cap 8 40x40**


a = 4.0 mm m = 6.0 g

black, 1 pce. 0.0.411.26




grey similar to RAL 7042, 1 pce. 0.0.627.57

**Angle Bracket Cap 8 80x80**


a = 4.0 mm m = 13.0 g

black, 1 pce. 0.0.411.25

grey similar to RAL 7042, 1 pce. 0.0.627.58

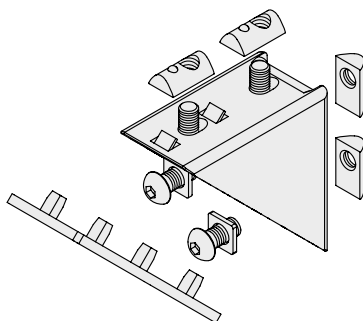
<b>Angle Bracket Cap 8 160x80</b>	
a = 4.0 mm      m = 23.0 g	
black, 1 pce.	0.0.436.25
grey similar to RAL 7042, 1 pce.	0.0.627.59
<b>Angle Bracket Cap 12 60x60</b>	
a = 5.4 mm      m = 20.0 g	
black, 1 pce.	0.0.005.06
<b>Angle Bracket Cap 12 120x120</b>	
a = 5.4 mm      m = 40.0 g	
black, 1 pce.	0.0.005.07










The following applies to all the sets below:

Angle Bracket Zn, die-cast zinc, RAL9006

Angle Bracket Cap, PA, black

Fastening elements and washers, St, bright zinc-plated



<b>Angle Bracket Set 5 20x20</b>	
m = 23.0 g	
1 set	0.0.425.02
<b>Angle Bracket Set 5 40x40</b>	
m = 58.0 g	
1 set	0.0.425.05
<b>Angle Bracket Set 6 30x30</b>	
m = 66.0 g	
1 set	0.0.419.67
<b>Angle Bracket Set 6 60x60</b>	
m = 166.0 g	
1 set	0.0.419.68
<b>Angle Bracket Set 8 40x40</b>	
m = 163.0 g	
1 set	0.0.411.15
<b>Angle Bracket Set 8 80x80</b>	
m = 360.0 g	
1 set	0.0.411.32
<b>Angle Bracket Set 8 160x80</b>	
m = 662.0 g	
1 set	0.0.436.24
<b>Angle Bracket Set 12 60x60</b>	
m = 520.0 g	
1 set	0.0.003.53
<b>Angle Bracket Set 12 120x120</b>	
m = 1.2 kg	
1 set	0.0.003.54

The following applies to all the sets below:

Angle Bracket Zn, die-cast zinc, RAL9006

Angle Bracket Cap, PA, grey

Fastening elements and washers, St, bright zinc-plated

**Angle Bracket Set 10 50x50**



m = 335.0 g

1 set

0.0.625.23

**Angle Bracket Set 10 100x100**



m = 826.0 g

1 set

0.0.625.26



**Angle Bracket Set X 8 40x40**



m = 150.0 g

1 set

0.0.601.62

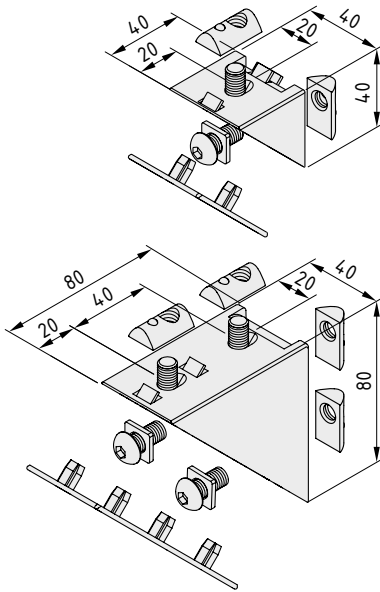
**Angle Bracket Set X 8 80x80**



m = 360.0 g

1 set

0.0.601.61





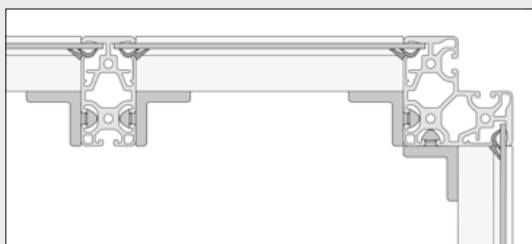
## Angle Bracket V Zn

- Simple, torsion-resistant profile connections
- For medium loads
- No machining required

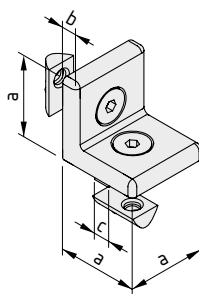


Angle Brackets V Zn are very easy-to-use fastening elements for right-angled profile connections. The profiles do not need to be processed. Angle Brackets V Zn have an anti-torsion feature which locates them in the correct position in the profile groove.

The integral anti-torsion lugs are present on one face only, so that the Brackets can also be used for fastening any other parts to profiles.



The Clamp Profiles light are connected using Angle Bracket V 8 40 Zn.



The following applies to all the sets below:

Angle Bracket, die-cast zinc, RAL 9006 white aluminium

2 T-Slot Nuts, St, bright zinc-plated

2 Countersunk Screws DIN 7991, St, bright zinc-plated

### Angle Bracket V 5 20 Zn



a [mm]	b [mm]	c [mm]	m [g]
20	3	5	18.0
1 set			0.0.612.79

### Angle Bracket V 6 30 Zn



a [mm]	b [mm]	c [mm]	m [g]
30	6	6	68.5
1 set			0.0.612.78

### Angle Bracket V 8 40 Zn



a [mm]	b [mm]	c [mm]	m [g]
40	8	8	167.0
1 set			0.0.486.28



## Angle Bracket Al and St

Maximum load-carrying capacity for large profile cross-sections

- Heavy-duty fastening elements for profiles
- For fastening heavy-duty components
- Power-lock connection with no profile machining

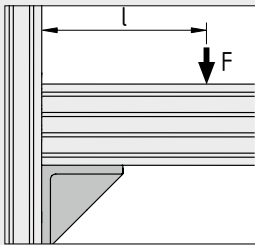


These Angle Brackets are heavy-duty fastening elements that produce power-lock, non-machined connections between large profiles. They can also be used as screw connections between profiles and floors or walls and for fastening heavy parts that are not part of the MB Building Kit System.

The Angle Brackets can be screwed to the profile with up to four Fastening Sets, according to requirements. They support the load-bearing component above them without the need for further machining.

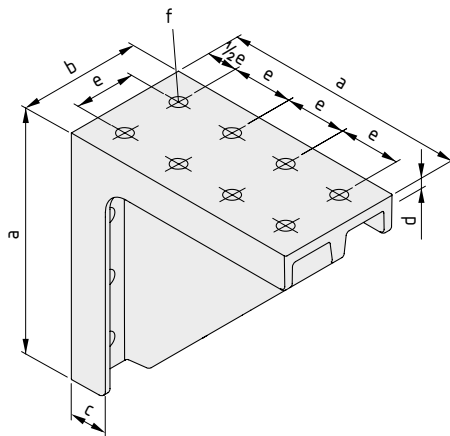


The substantial web gives the Angle Bracket its high load-carrying capacity but the screws are still readily accessible, thereby ensuring easy installation.



Angle Bracket 8 160x160-40 Al	$F < 4,000 \text{ N} \wedge F \times l < 400 \text{ Nm}$
Angle Bracket 8 160x160 Al	$F < 8,000 \text{ N} \wedge F \times l < 800 \text{ Nm}$
Angle Bracket 8 160x160 St	$F < 8,000 \text{ N} \wedge F \times l < 1,200 \text{ Nm}$
Angle Bracket 10 200x200-50 Al	$F < 5,000 \text{ N} \wedge F \times l < 500 \text{ Nm}$
Angle Bracket 12 240x240 Al	$F < 16,000 \text{ N} \wedge F \times l < 4,200 \text{ Nm}$

The load-carrying capacity is to be checked to ensure both conditions are met.



### Angle Bracket 8 160x160 Al M8



Die-cast aluminium

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [kg]
160	80	24	7.5	40	Ø9	1.1
white aluminium, similar to RAL 9006, 1 pce.						0.0.602.36

### Angle Bracket 8 160x160 St M8



High-strength cast iron

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [kg]
160	80	24	7	40	Ø9	2.4
white aluminium, similar to RAL 9006, 1 pce.						0.0.475.21

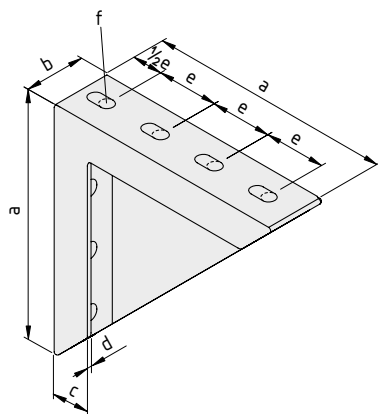
### Angle Bracket 12 240x240 Al M12



Die-cast aluminium

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [kg]
240	120	26	9.5	60	Ø13.5	2.7
white aluminium, similar to RAL 9006, 1 pce.						0.0.007.79



**Angle Bracket 8 160x160-40 Al M8**

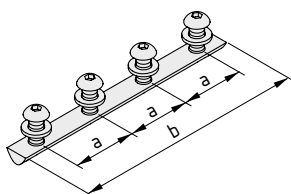
Die-cast aluminium

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
160	40	24	7.5	40	Ø9	480.0
white aluminium, similar to RAL 9006, 1 pce.						0.0.619.56

**Angle Bracket 10 200x200-50 Al M10**

Die-cast aluminium

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
200	50	30	10	50	Ø11	899.0
white aluminium, similar to RAL 9006, 1 pce.						0.0.624.78

**Fastening Set for Angle Bracket 8 160x160 M8**

Profile Bar 8 St M8, bright zinc-plated

4 Button-Head Screws ISO 7380-M8x20, St, bright zinc-plated

4 washers DIN 1441-9.0, St, bright zinc-plated

a [mm]	b [mm]	M [Nm]	m [g]
40	150	25	132.0
1 set			0.0.479.96

**Fastening Set for Angle Bracket 10 200x200 M10**

Profile Bar 10 St M10, bright zinc-plated

4 Button-Head Screws ISO 7380-M10x25, St, bright zinc-plated

4 washers DIN 125-10.5, St, bright zinc-plated

a [mm]	b [mm]	M [Nm]	m [g]
50	190	46	112.0
1 set			0.0.632.41

**Fastening Set for Angle Bracket 12 240x240 M12**

Profile Bar 12 St M12-60, bright zinc-plated

4 Button-Head Screws ISO 7380-M12x30, St, bright zinc-plated

4 washers DIN 1441-13.0, St, bright zinc-plated

a [mm]	b [mm]	M [Nm]	m [g]
60	230	80	400.0
1 set			0.0.609.16

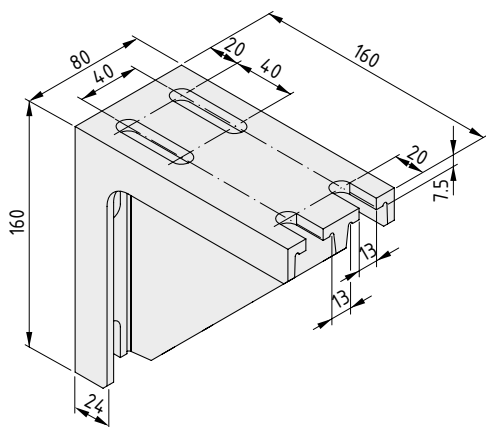


Angle Bracket 8 160x160 St M12 is used for screw attachment with Fasteners 8 M12. A particularly heavy-duty connection is possible for the profiles by using an M12 bolt with Profile 8 grooves. Alternatively, Angle Bracket 8 St M12 can also be screw attached using bolts and T-Slot Nuts 8 St M8.



Two-part Fastener for heavy-duty securing of parts to the Profile 8 groove. The two halves of the Fastener are fitted into the groove at any point where they are then slid together. The integrated spring ball holds the Fastener in place and facilitates screw attachment.

The tightening torque for the nut of Fastener 8 M12 is  $M = 80 \text{ Nm}$ .

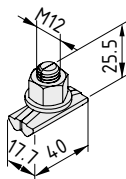


#### Angle Bracket 8 160x160 St M12

High-strength cast iron  
 $m = 2.2 \text{ kg}$

white aluminium, similar to RAL 9006, 1 pce.

0.0.475.20



#### Fastener 8 M12

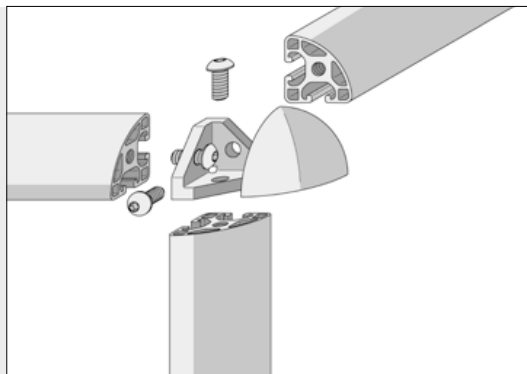
Fastener half, cast steel, stainless  
Fastener half with spring ball, cast steel, stainless  
Nut DIN 934-M12, St, bright zinc-plated  
Washer DIN 125-12, St, bright zinc-plated  
 $M = 80 \text{ Nm}$   $m = 70.0 \text{ g}$

1 set

0.0.473.02

## Corner Fastening Sets

- Connect three profiles to form one corner unit
- Stylish covers in two colours



Fastening Sets can be used to construct a corner unit with three profiles or one corner angle with two profiles, ensuring a continuous profile geometry.

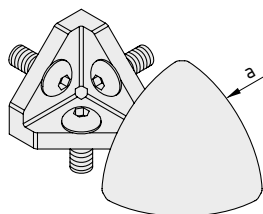
Fastening Sets are ideal for constructing attractive display cases, tables, cover hoods etc.  
The profiles must be provided with threads in the core bores.

The following applies to all the sets below:

Fastener, die-cast zinc, black

Fastener Cap

3 Button-Head Screws ISO 7380



### Fastening Set 5 R20-90°



a = R20 m = 21.0 g

black, 1 set

0.0.425.97

grey similar to RAL 7042, 1 set

0.0.642.11

### Fastening Set 6 R30-90°



a = R30 m = 54.0 g

black, 1 set

0.0.434.87

grey similar to RAL 7042, 1 set

0.0.642.13

### Fastening Set 8 R40-90°



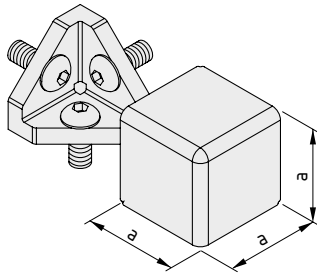
a = R40 m = 120.0 g

black, 1 set

0.0.436.35

grey similar to RAL 7042, 1 set

0.0.640.33


**Fastening Set 5 20x20x20**


a = 20 mm      m = 22.0 g

black, 1 set 0.0.437.96

grey similar to RAL 7042, 1 set 0.0.642.12

**Fastening Set 6 30x30x30**


a = 30 mm      m = 59.0 g

black, 1 set 0.0.434.88

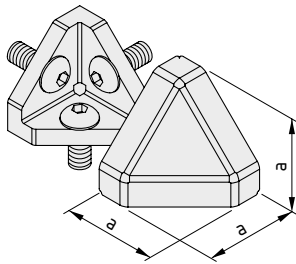
grey similar to RAL 7042, 1 set 0.0.642.15

**Fastening Set 8 40x40x40**


a = 40 mm      m = 133.0 g

black, 1 set 0.0.416.08

grey similar to RAL 7042, 1 set 0.0.640.32


**Fastening Set 6 30x30-45°**


a = 30 mm      m = 54.0 g

black, 1 set 0.0.434.86

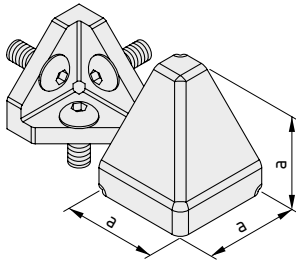
grey similar to RAL 7042, 1 set 0.0.642.14

**Fastening Set 8 40x40-45°**


a = 40 mm      m = 127.0 g

black, 1 set 0.0.388.68

grey similar to RAL 7042, 1 set 0.0.640.34

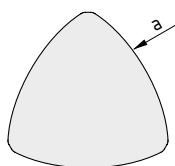

**Fastening Set 8 40x40-2x45°**


a = 40 mm      m = 128.0 g

black, 1 set 0.0.436.63

Materials used in all the following products:

PA-GF

**Fastener Cap 5 R20-90°**

a = R20      m = 0.7 g

black, 1 pce. 0.0.425.94

grey similar to RAL 7042, 1 pce. 0.0.641.48

**Fastener Cap 6 R30-90°**

a = R30      m = 3.0 g

black, 1 pce. 0.0.434.83

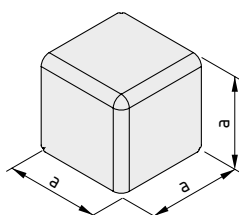
grey similar to RAL 7042, 1 pce. 0.0.636.17

**Fastener Cap 8 R40-90°**

a = R40      m = 8.0 g

black, 1 pce. 0.0.436.32

grey similar to RAL 7042, 1 pce. 0.0.627.60

**Fastener Cap 5 20x20x20**

a = 20 mm      m = 1.0 g

black, 1 pce. 0.0.437.73

grey similar to RAL 7042, 1 pce. 0.0.641.46

**Fastener Cap 6 30x30x30**

a = 30 mm      m = 8.0 g

black, 1 pce. 0.0.434.84

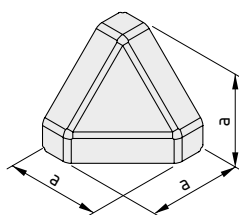
grey similar to RAL 7042, 1 pce. 0.0.636.19

**Fastener Cap 8 40x40x40**

a = 40 mm      m = 16.0 g

black, 1 pce. 0.0.415.97

grey similar to RAL 7042, 1 pce. 0.0.628.69

**Fastener Cap 6 30x30-45°**

a = 30 mm      m = 3.0 g

black, 1 pce. 0.0.434.85

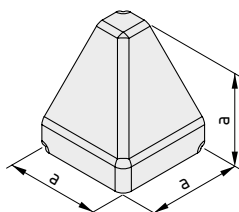
grey similar to RAL 7042, 1 pce. 0.0.636.18

**Fastener Cap 8 40x40-45°**

a = 40 mm      m = 9.0 g

black, 1 pce. 0.0.373.52

grey similar to RAL 7042, 1 pce. 0.0.628.68

**Fastener Cap 8 40x40-2x45°**

a = 40 mm      m = 10.0 g

black, 1 pce. 0.0.436.62



## Radius Seals

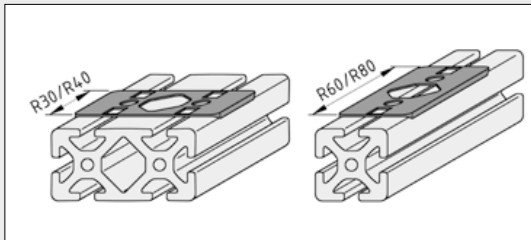
- Sealing for the end face of a profile
- Protection against dirt and dust
- Ideal for cleanroom applications



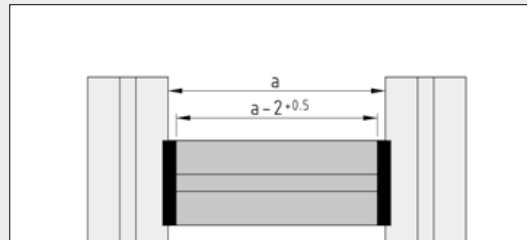
The plastic Radius Seals ensure a continuous transition for the external contour of 90° profile connections. The gap between the straight end-face saw cut of the profile and the profile edge radius is filled by the seal. The Radius Seals can be used in combination with all fastening elements in the MB Building Kit System.

Note:

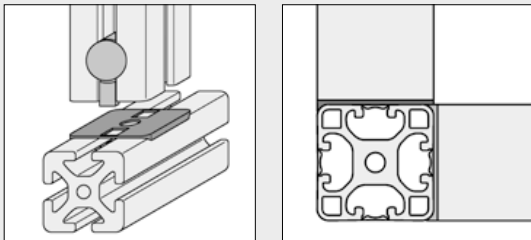
When using the Radius Seal with Standard, Universal and Automatic Fasteners the power-lock connection is achieved by an intermediate plastic element. It is advisable to double the safety factor at the design stage.



The designations R30, R40, R60 and R80 refer to the length of the side of the seal facing the profile radius.



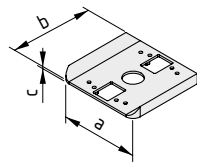
In calculating the length of the cross profiles between two profiles, the thickness of the Radius Seals on each side must be taken into account.



Where a radius seal is already fitted to a perpendicular connection, a Radius Seal 1R should be used.

Materials used in all the following products:

PA



### Radius Seal 6 30x30



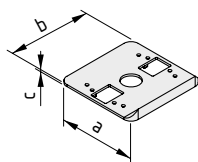
a [mm]	b [mm]	c [mm]	m [g]
30	30	1	1.1
grey similar to RAL 7042, 1 pce.			0.0.478.73

### Radius Seal 8 40x40

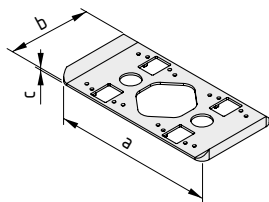


a [mm]	b [mm]	c [mm]	m [g]
40	40	1	2.0
grey similar to RAL 7042, 1 pce.			0.0.480.01

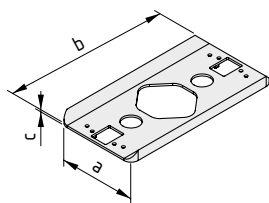


**Radius Seal 6 30x30 1R**

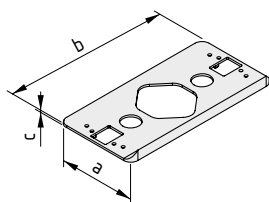
a [mm]	b [mm]	c [mm]	m [g]
30	30	1	1.0
grey similar to RAL 7042, 1 pce.			
0.0.491.37			

**Radius Seal 8 40x40 1R**

a [mm]	b [mm]	c [mm]	m [g]
40	40	1	2.0
grey similar to RAL 7042, 1 pce.			
0.0.494.46			

**Radius Seal 6 60x30 R30**

a [mm]	b [mm]	c [mm]	m [g]
60	30	1	1.7
grey similar to RAL 7042, 1 pce.			
0.0.478.75			

**Radius Seal 8 80x40 R40**

a [mm]	b [mm]	c [mm]	m [g]
80	40	1	4.0
grey similar to RAL 7042, 1 pce.			
0.0.480.03			

**Radius Seal 6 60x30 R60**

a [mm]	b [mm]	c [mm]	m [g]
30	60	1	2.1
grey similar to RAL 7042, 1 pce.			
0.0.478.74			

**Radius Seal 8 80x40 R80**

a [mm]	b [mm]	c [mm]	m [g]
40	80	1	4.0
grey similar to RAL 7042, 1 pce.			
0.0.480.02			

**Radius Seal 6 60x30 1R60**

a [mm]	b [mm]	c [mm]	m [g]
30	60	1	2.0
grey similar to RAL 7042, 1 pce.			
0.0.491.40			

**Radius Seal 8 80x40 1R80**

a [mm]	b [mm]	c [mm]	m [g]
40	80	1	4.0
grey similar to RAL 7042, 1 pce.			
0.0.494.49			



## Adapter 8 D40

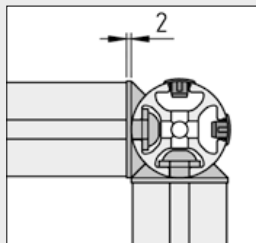
- Connect together cylindrical Profiles 8 D40
- Combine rectangular Profiles 8 with Profiles 8 D40



Profiles 8 D40 can be connected with other Profiles 8 D40 or with Profiles 8 40x40 or 80x40 using Line 8 fastening elements. In contrast to connecting two profiles with rectangular cross-sections, suitable adapters must be used for Profiles 8 D40.

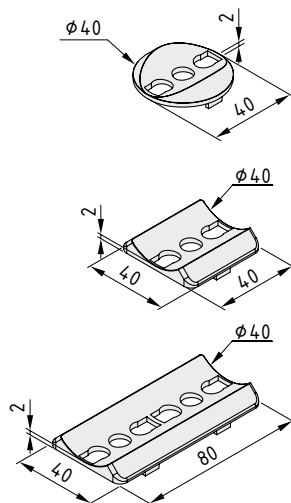
Standard-Fastening Set 8 and the Automatic-Fastening Set 8 N D40 are well suited for right-angled profile connections. When calculating the cut-off length of the profiles, the 2 mm wall thickness of Adapters 8 D40 must be taken into account.

Universal-Fastening Set 8 can also be used when connecting the rectangular end face of a Profile 8 to a Profile 8 D40. It is important to ensure that, due to the wall thickness of the adapter, the distance from the centre of the 20 mm dia. mounting bores of the Universal Fastener to the end of the profile must not exceed 18 mm. In addition, the anti-torsion feature of Universal Fastener 8 must be removed.



The gap that would result when connecting the rounded outer surface of Profiles 8 D40 and the straight profile end faces (or any other flat components) is closed off completely by Adapter 8 D40. A smooth transition is made from the outer contour of the profile to the connecting face of the second profile.

Adapters 8 D40 also serve as radial seals. In completely covering the end face of the profile, they seal the openings of the profile cross-section.



### Adapter 8 D40/D40



Die-cast zinc  
m = 28.0 g

white aluminium, similar to RAL 9006, 1 pce.

0.0.489.88

### Adapter 8 40x40/D40



Die-cast zinc  
m = 42.0 g

white aluminium, similar to RAL 9006, 1 pce.

0.0.489.86

### Adapter 8 80x40/D40



Die-cast zinc  
m = 84.0 g

white aluminium, similar to RAL 9006, 1 pce.

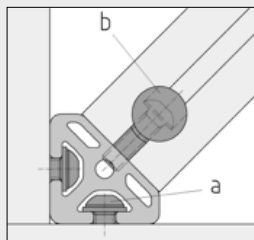
0.0.489.87

## Angle Elements T1

- Latticework reinforcement for profile constructions
- Profile connection at a 45° angle



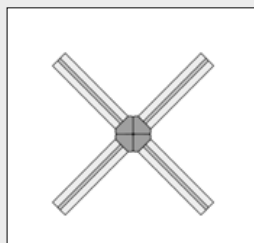
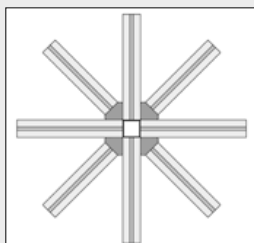
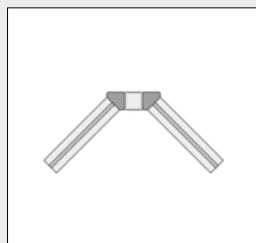
Angle Elements T1 create 45° angle connections either between two profiles or between themselves. They are fastened using Button-Head Screws ISO 7380 and DIN 125 washers. The profile to be connected via its end face can be screwed into place using two Universal Fasteners (anti-torsion feature removed) and Button-Head Screws ISO 7380.



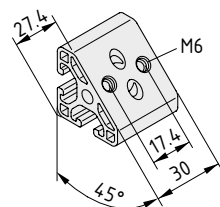
- a Button Head Screws ISO 7380-M6x12  
Washers DIN 125-6.4
- b Universal Fasteners 6  
Button Head Screws ISO 7380-M6x20



- a Button Head Screws ISO 7380-M8x16  
Washers DIN 125-8.4
- b Universal Fasteners 8  
Button Head Screws ISO 7380-M8x25



The ends of the Angle Elements can be covered with Caps 6 30x30-45° or 8 40x40-45°.



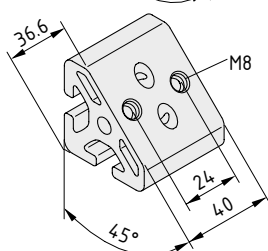
### Angle Element 6 T1-30



Al, anodized  
m = 23.0 g

natural, 1 pce.

0.0.459.70



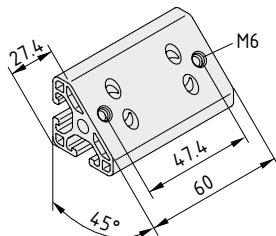
### Angle Element 8 T1-40



Al, anodized  
m = 73.0 g

natural, 1 pce.

0.0.388.00



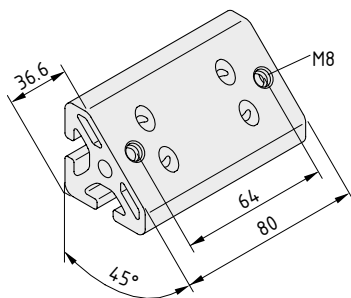
### Angle Element 6 T1-60



Al, anodized  
m = 40.0 g

natural, 1 pce.

0.0.459.74



### Angle Element 8 T1-80



Al, anodized  
m = 148.0 g

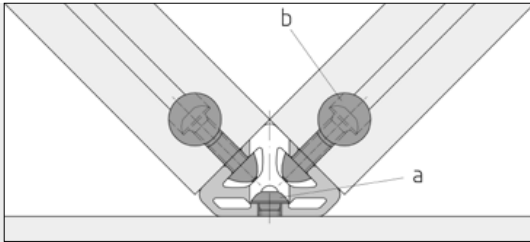
natural, 1 pce.

0.0.388.01



## Angle Elements T2

- Connect two profiles at a 45° angle
- Latticework design produces greater stability

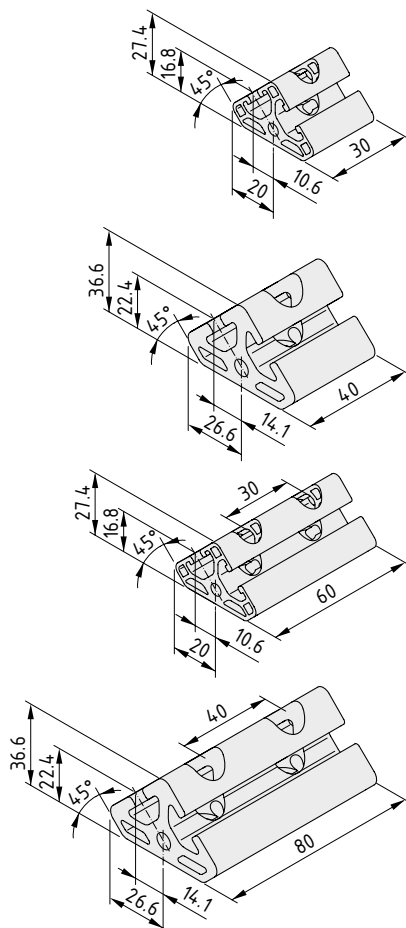
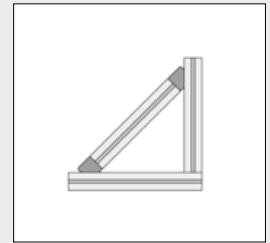
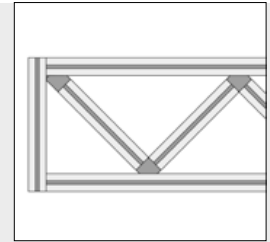


Angle Elements T2 are fastened with Button-Head Screws, Universal Fasteners or Automatic Fasteners and a special T-Slot Nut (see table).



The ends of the Angle Elements can be covered with Caps 6 30x30-45° or 8 40x40-45°.

	a	Button-Head Screws ISO 7380-M6x16
		Universal Fastener 6
	b	Button-Head Screws ISO 7380-M6x22 T-Slot Nut 6 St 2xM6-28 or 6 St 2x M6-58
	a	Button-Head Screws ISO 7380-M8x16
		Universal Fastener 8
	b	Button-Head Screws ISO 7380-M8x30 T-Slot Nut 8 St 2xM8-36 or 8 St 2x M8-76
	a	Button-Head Screws ISO 7380-M6x16
		Universal Fastener 6
	b	Button-Head Screws ISO 7380-M6x22 T-Slot Nut 6 St 2xM6-28 or 6 St 2x M6-58
	a	Button-Head Screws ISO 7380-M8x16
		Universal Fastener 8
	b	Button-Head Screws ISO 7380-M8x30 T-Slot Nut 8 St 2xM8-36 or 8 St 2x M8-76
	a	Button-Head Screws ISO 7380-M6x16
		Universal Fastener 6
	b	Button-Head Screws ISO 7380-M6x22 T-Slot Nut 6 St 2xM6-28 or 6 St 2x M6-58
	a	Button-Head Screws ISO 7380-M8x16
		Universal Fastener 8
	b	Button-Head Screws ISO 7380-M8x30 T-Slot Nut 8 St 2xM8-36 or 8 St 2x M8-76



### Angle Element 6 T2-30

Al, anodized  
m = 23.0 g  
natural, 1 pce.

0.0.459.72

### Angle Element 8 T2-40

Al, anodized  
m = 67.0 g  
natural, 1 pce.

0.0.388.02

### Angle Element 6 T2-60

Al, anodized  
m = 44.0 g  
natural, 1 pce.

0.0.459.76

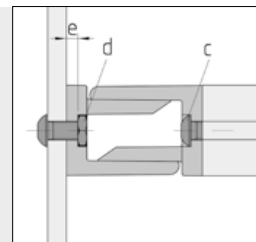
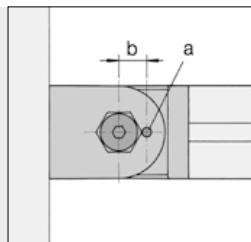
### Angle Element 8 T2-80

Al, anodized  
m = 135.0 g  
natural, 1 pce.

0.0.388.03

## Hinges, heavy-duty

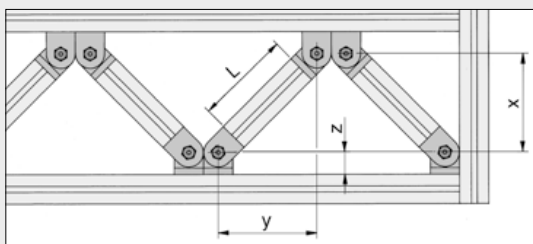
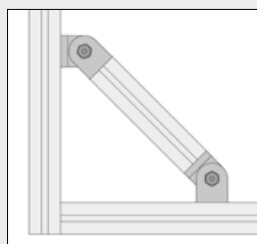
- Stable connection at any angle of adjustment from 0° to 180°
- Clamp lever enables rapid adjustment
- Fixing also possible using a dowel pin
- Products from Line X also available



The Hinges with Clamp Lever can be locked in position or released. Particularly suitable for adjustable holders, swivel-type arms for Parts Containers and other similar equipment.

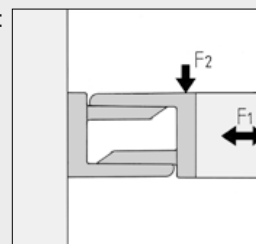
Specially designed Hinges X 8 with or without a clamp lever are available for profile constructions built with Line X.

A Hinge heavy-duty can be fixed at any angle by pinning (a).



Calculation of the strut length L:

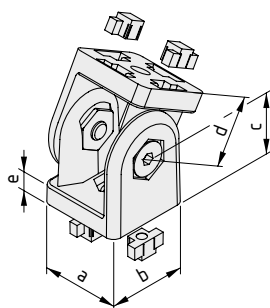
$$L = \sqrt{x^2 + y^2} - 2z$$



Hinge, heavy-duty	Dowel		Screw	Nut	Connection				
	DIN 6325				rigid		movable		
	a	b	c	d	e	F1	F2	F1	F2
5 20x20	2m6x20	7 mm	Hex. Socket Head Cap Screw DIN 912-M5	DIN 557 M5	3.3 mm	500 N	200 N	200 N	100 N
6 30x30	4m6x30	10 mm	Button-Head Screw ISO 7380-M6x14	DIN 439 M6	3.5 mm	1,750 N	500 N	500 N	500 N
8 40x40	4m6x40	12 mm	Button-Head Screw ISO 7380-M8x16	DIN 439 M8	5.0 mm	5,000 N	1,000 N	750 N	750 N
8 80x40	6m6x40	24 mm	Button-Head Screw ISO 7380-M8x16	DIN 439 M8	5.0 mm	10,000 N	2,000 N	1,500 N	1,500 N

The following applies to all the sets below:

- 2 hinge halves, die-cast zinc, white aluminium
- 4 anti-torsion lugs
- 2 thread bushes
- 2 spacer rings
- 2 Countersunk Screws DIN 7991



### Hinge 5 20x20, heavy-duty



a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	m [g]
20	20	15	15	5	39.0
1 pce.					0.0.464.39

**Hinge 6 30x30, heavy-duty**


a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	m [g]
30	30	22.5	22.5	7	125.0
1 pce.					0.0.419.80

**Hinge 8 40x40, heavy-duty**


a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	m [g]
40	40	30	30	9	320.0
1 pce.					0.0.265.31

**Hinge 8 80x40, heavy-duty**


a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	m [kg]
40	80	50	50	9	1.0
1 pce.					0.0.373.91



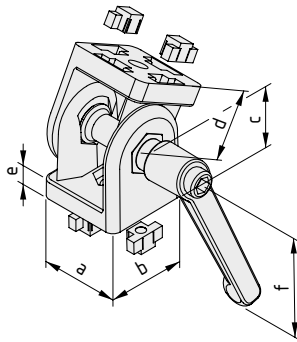
8

**Hinge X 8 40x40, heavy-duty**


a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	m [g]
40	40	30	30	9	310.0
1 pce.					0.0.601.12

The following applies to all the sets below:

2 hinge halves, die-cast zinc, white aluminium  
4 anti-torsion lugs  
Thread bush  
Bush liner  
Spacer collar  
Clamp lever


**Hinge 5 20x20, heavy-duty with Clamp Lever**


Max. holding torque = 5 Nm

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
20	20	15	15	5	45	81.0
1 pce.						0.0.464.43

**Hinge 6 30x30, heavy-duty with Clamp Lever**


Max. holding torque = 10 Nm

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
30	30	22.5	22.5	7	45	163.0
1 pce.						0.0.419.85

**Hinge 8 40x40, heavy-duty with Clamp Lever**


Max. holding torque = 20 Nm

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
40	40	30	30	9	63	410.0
1 pce.						0.0.373.93



8

**Hinge X 8 40x40, heavy-duty with Clamp Lever**

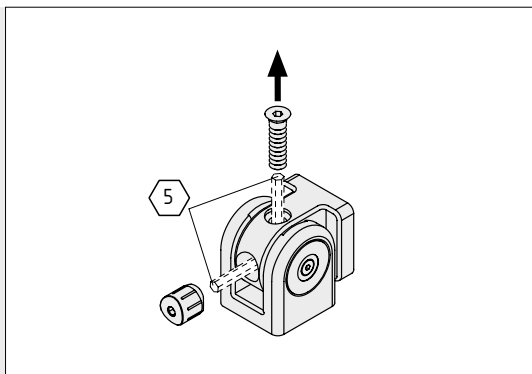

Max. holding torque = 20 Nm

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
40	40	30	30	9	63	390.0
1 pce.						0.0.601.13

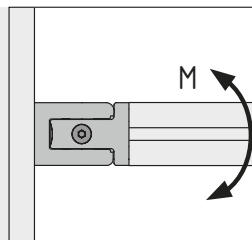
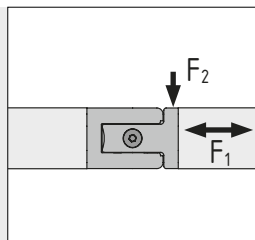


## Ball-Bearing Hinge 8 40x40

- Enables movement through up to 180°
- Two ball bearings provide excellent load-carrying capacity
- Wear-resistant and robust



The Ball-Bearing Hinge can be screwed to any components using the integrated M8x16 fastening screws. These screws are driven through the holes in the bearing block using a 5 A/F hexagon key. To access the screws, simply remove the retaining screw from the bearing block. The Ball-Bearing Hinge does not need to be disassembled.

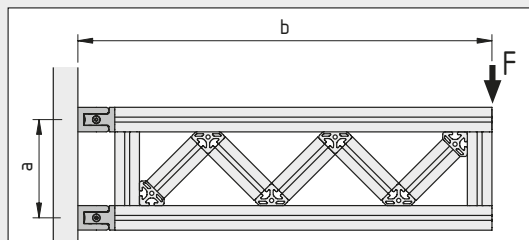


Permissible load:

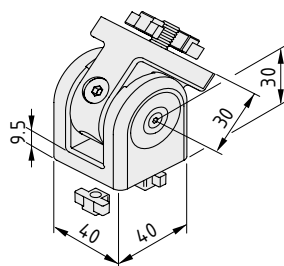
$$\begin{aligned} F_{1\max} &= 2500 \text{ N} \\ F_{2\max} &= 750 \text{ N} \\ M_{\max} &= 45 \text{ Nm} \end{aligned}$$

Where there is a combination of radial ( $F_1$ ) and axial ( $F_2$ ) load, the total load must satisfy the following equation:

$$\frac{F_1}{F_{1\max}} + \frac{F_2}{F_{2\max}} \leq 1$$



$$\begin{aligned} F_{\max} &\leq F_{1\max} \frac{a}{b} \\ F_{\max} &\leq F_{2\max} / 2 \end{aligned}$$



### Ball-Bearing Hinge 8 40x40



Ball-Bearing Hinge fork, die-cast zinc, RAL 9006 white aluminium  
 Ball-Bearing Hinge bearing block, die-cast zinc, RAL 9006 white aluminium  
 4 anti-torsion lugs, die-cast zinc  
 2 fastening screws M8x16, St, bright zinc-plated  
 Cap, PA-GF, grey  
 Retaining screw M8, St, bright zinc-plated  
 m = 510.0 g

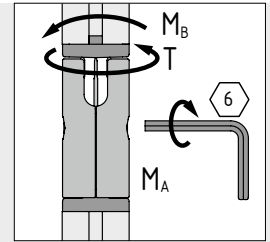
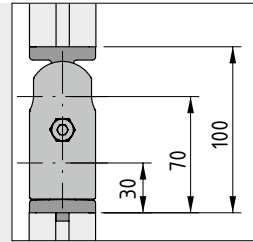
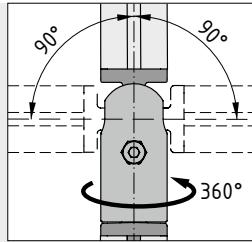
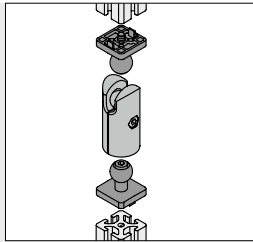
1 pce.

0.0.494.11



## Ball Joint 8

- Two-dimensional pivoting
- Available with clamp lever for rapid adjustment

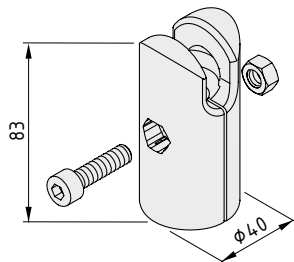


Each Ball Joint 8 requires two balls that are suitable for the profiles being connected:

- Ball 40x40 for connection to Profiles 8 with right-angled cross-sections
- Ball D40 for connection to Profiles 8 D40 (with cylindrical cross-section)

Max. tightening torque of central securing screw M8:  
 $M_A = 25 \text{ Nm}$

Permissible loading moments for Ball Joint 8:  
Deflection  $M_B = 2 \text{ Nm}$   
Torsion  $T = 3 \text{ Nm}$



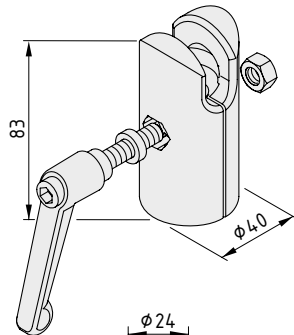
### Ball Joint 8, Socket



2 hinge halves, die-cast aluminium, RAL 9006 white aluminium  
Hexagon Socket Head Cap Screw M8x30, St, bright zinc-plated  
Hexagon Nut M8, St, bright zinc-plated  
 $m = 200.0 \text{ g}$

1 set

0.0.608.69



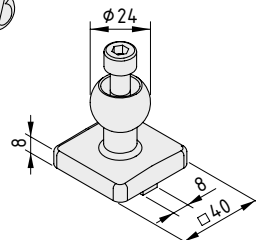
### Ball Joint 8, Socket with Clamp Lever



2 hinge halves, die-cast aluminium, RAL 9006 white aluminium  
Clamp Lever M8x32  
Spacer sleeve, St, bright zinc-plated  
Hexagon Nut M8, St, bright zinc-plated  
 $m = 272.0 \text{ g}$

1 set

0.0.611.00



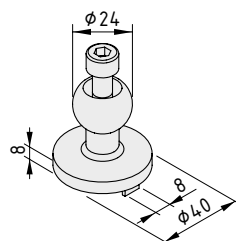
### Ball Joint 8, Ball End 40x40



Ball, die-cast aluminium, RAL 9006 white aluminium  
Hexagon Socket Head Cap Screw M8x40, St, bright zinc-plated  
 $m = 55.0 \text{ g}$

1 set

0.0.610.95



### Ball Joint 8, Ball End D40



Ball, die-cast aluminium, RAL 9006 white aluminium  
Hexagon Socket Head Cap Screw M8x40, St, bright zinc-plated  
 $m = 51.0 \text{ g}$

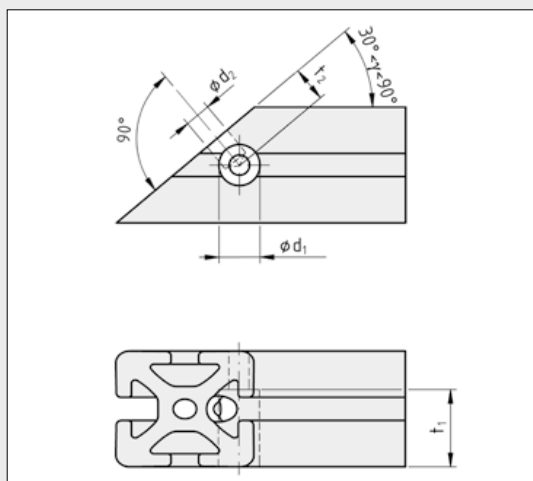
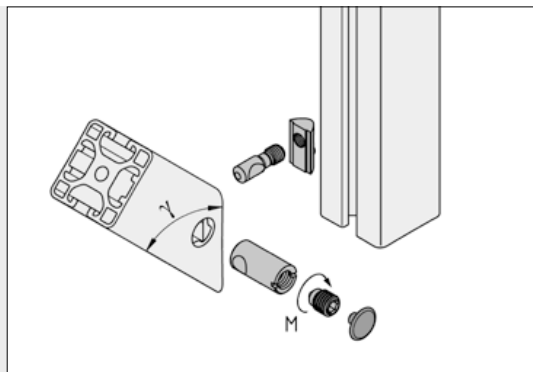
1 set

0.0.610.98



## Mitre-Fastening Sets

- Profile connection at any angle from 30° to 90°
- The profile groove stays free to accommodate panel elements



Drilling Jig and Step Drill, Mitre Connection 580

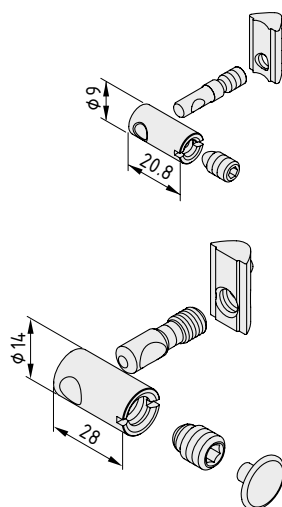
Using the Mitre-Fastening Set:

1. Mitre-cut profile at angle  $\gamma$ .
2. Drill a counterbore ( $\phi d_1$ ) for the fastener sleeve into the side of the mitre-cut profile.
3. Drill a hole ( $\phi d_2$ ) into the mitred face of the profile
4. Insert the T-Slot Nut into the profile groove of the continuous profile and screw in the clamping pin until the mark around the perimeter is level with the profile surface.
5. Insert the fastener sleeve into the counterbore of the mitred profile and fit the assembly over the clamping pin.
6. Drive the grub screw into the fastener sleeve and clamp the profile connection.
7. Fit the cap onto the fastener sleeve (Line 8).

Note: Despite the optimised design, the flow of forces across the inclined contact faces of the profiles is such that only part of the pretension of the screw connection is utilized. Mitre connections therefore have a lower load bearing capacity than other, right-angled profile connections (Standard-Fastening, Universal-Fastening or Automatic-Fastening Set). Mitre-Fastening Sets should therefore not be used for constructing basic frames and safety-related parts that are subject to high loads.

	$d_1$	$t_1$	$d_2$	$t_2$	M [Nm]
	$\phi 9.1$	21	$\phi 5.5$	10	3.5
Drill	0.0.628.25		-		
Drilling Jig	0.0.616.77		0.0.616.89		
	$\phi 14.2$	26.7	$\phi 9$	12	15
Drill	0.0.492.60		-		
Drilling Jig	0.0.493.72		0.0.493.71		

Your item dealer can provide the required mitre cuts and profile processing as a service.



### Mitre-Fastening Set 6

Clamping pin M5x23, St, bright zinc-plated  
Sleeve with bore, St, bright zinc-plated  
Grub screw M6, St, bright zinc-plated  
T-Slot Nut 6 St M5, bright zinc-plated  
m = 17.0 g

1 set 0.0.627.12

### Mitre-Fastening Set 8

Clamping pin M8x28.5, St, bright zinc-plated  
Sleeve with bore, St, bright zinc-plated  
Grub screw M10, St, bright zinc-plated  
T-Slot Nut V 8 St M8, bright zinc-plated  
Cap, PA grey  
m = 40.0 g

1 set 0.0.492.30



## Direct-Fastening Set 8

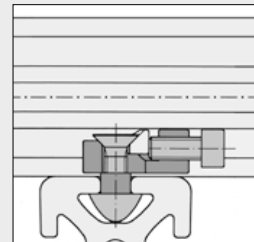
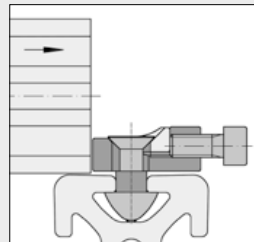
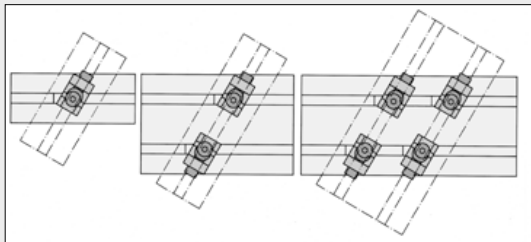
- Power-lock connection for profiles that cross
- Profile sides abut against each other



Power-lock connection (without machining) of two Profiles 8 that touch along their outer faces. The profiles can also run in parallel over a certain distance. Both profiles can be moved in the direction of the groove.

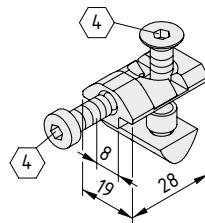
The Direct-Fastening Set is particularly suitable for connecting the profiles of ball-bush block guides with other profiles, so that the profiles can be moved and no machining is required.

Note: Where anodized surfaces are to be fitted together, we recommend greasing the contact points. This minimises the level of noise generated.



Installation note:  
Loosen the Hexagon Socket Head Cap Screw to free up the maximum adjustment range of the small wedge, then tighten the Countersunk Screw so that the profiles can only just be moved by hand.

After positioning both profiles, tension the Direct-Fastening Set by tightening the Hex. Socket Head Cap Screw.



### Direct-Fastening Set 8

Fastener, cast steel  
Countersunk Screw DIN 7991-M6x20, St  
Hexagon Socket Head Cap Screw DIN 7984-M6x14, St  
Spacer sleeve, POM, black  
T-Slot Nut 8 St M6

$M_{\text{bright zinc-plated}} = 5.5 \text{ Nm}$        $m = 37.0 \text{ g}$

bright zinc-plated, 1 set

0.0.388.63

### Direct-Fastening Set 8

$M_{\text{stainless}} = 4.5 \text{ Nm}$        $m = 37.0 \text{ g}$

stainless, 1 set

0.0.440.65



## Click-Fastening Set 8

### Adjustable and fast

- For profiles that cross, can be fitted at any position
- For assembling struts without the need for machining
- Particularly quick to fit
- Ideal for temporary structures



The item MB Building Kit System opens up a whole new dimension in flexibility. Profiles can be connected to other profiles at any position and at virtually any angle without machining.

Profile sections are attached to existing constructions and are employed as re-usable, variable struts. Thanks to the Click-Fastening Set, profiles no longer need to be cut off with absolute accuracy!

The Click-Fastening Set is particularly attractive for temporary structures - modifications can be made quickly and easily!



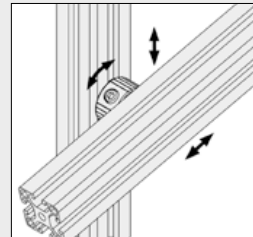
Mount the CLICK-Fastening Set onto the profile groove and lock in position (CLICK!).



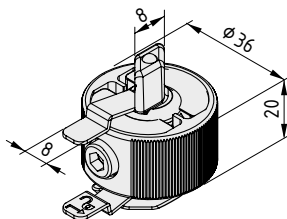
Connect the CLICK-Fastening Set with the second profile.



Align the CLICK-Fastening Set and tighten the tensioning screw.



Dismantling: Loosen the tensioning screw, lift the locking strip out of the profile groove and swivel it back. The CLICK-Fastening Set does not need to be taken apart and is immediately ready for use again.



### Click-Fastening Set 8



Clamping profile Al, natural  
Clamping elements, St, stainless  
Locking strips, St, stainless  
Hex. Socket Head Cap Screw M6x25, St, bright zinc-plated  
m = 105.0 g

1 set

0.0.489.79



## Face Fastening Set 8

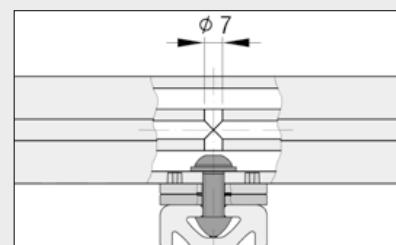
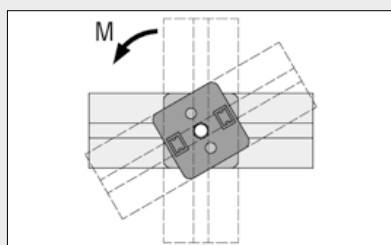
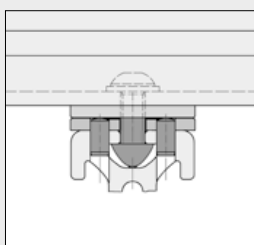
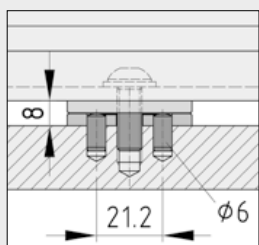
- Toothed fastener reinforces the rigid angled connection
- For inclined working surfaces
- Adjustment in 5° increments with anti-torsion feature



Face Fastening Set 8 is used to create a rigid angled connection between two profiles whose grooved sides face each other. It can also be used to connect the end face of one profile to the grooved side of another profile.

The two halves of the Face Fastening Set are located between the profiles being connected.

A clamp lever extending all the way through may be used with Face Fastening Set 8 to facilitate adjustment.



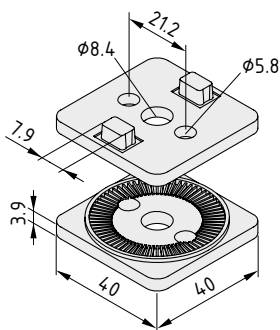
The anti-torsion blocks must be removed when attaching to panel elements.

Position of the fixing bores in the panel elements and profiles. These fixing bores are predrilled in the fastener (Ø 5.8 mm).

The angle between the profiles can be selected in 5° increments. The tothing ensures that the two halves fit together securely at the correct angle.

The two halves must be pinned together if a moment of  $M > 10 \text{ Nm}$  is applied to the Face Fastening Set. The permissible load is  $M_{\text{max}} = 20 \text{ Nm}$ .

Two Line 8 Profiles are screw-connected using screw ISO 7380-M8x25, Washer DIN 125-8,4 and T-Slot Nut 8 St M8. An access hole must be made in one of the profiles to accommodate the Allen key.



### Face Fastening Set 8

Die-cast zinc  
m = 71.0 g

black, 1 set

0.0.474.44



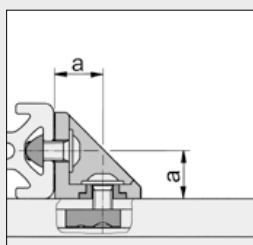
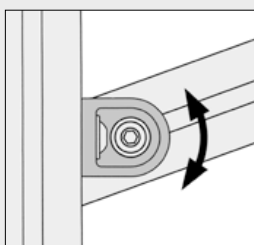


## Angle Hinge Brackets, Angle Clamp Brackets

- Simple, secure fixing for profiles that cross
- Adjustable via angle bracket with clamp lever
- For creating any angle

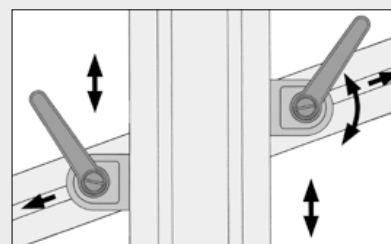
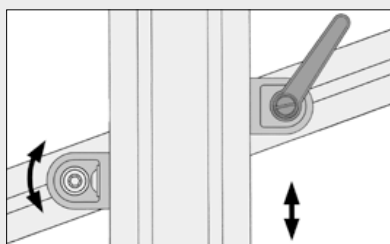
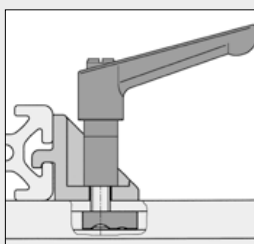
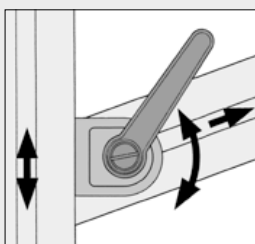


The Angle Hinge Brackets and Angle Clamp Brackets are used for connecting two profiles of the same Line whose side faces are in contact and which cross at an angle.



Angle Hinge Bracket	5	6	8
a	10 mm	15 mm	20 mm

The Angle Hinge Bracket serves as a fixed point of rotation for profiles crossing each other. When the screws are tight, the rotational position around the bearing bush can still be selected at will.

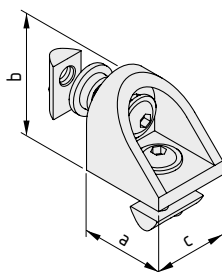


The Angle Clamp Bracket can be used in combination with an Angle Hinge Bracket or a second Angle Clamp Bracket to provide a simple connection between two crossing profiles.

Loosening the screw or clamp lever releases the tension in the two profile grooves and allows rotation at any angle and movement along the grooves.

Combination of Angle Hinge Bracket and Angle Clamp Bracket, e.g. for adjusting the angle of a shelf around a fixed point of rotation.

Combination of two Angle Clamp Brackets, e.g. for adjusting a rest (in terms of height, lateral location and angle).



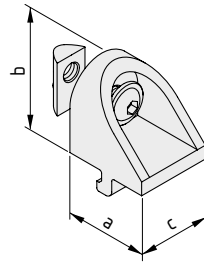
The following applies to all the sets below:

Angle bracket, die-cast zinc, RAL 9006 white aluminium  
Fastening materials

Angle Hinge Bracket 5				5
a [mm]	b [mm]	c [mm]	m [g]	
18	18	16	20.0	
1 set				0.0.437.83

Angle Hinge Bracket 6				6
a [mm]	b [mm]	c [mm]	m [g]	
27	27	24	65.0	
1 set				0.0.441.97

Angle Hinge Bracket 8				8
a [mm]	b [mm]	c [mm]	m [g]	
36	36	32	135.0	
1 set				0.0.457.76


**Angle Clamp Bracket 5**

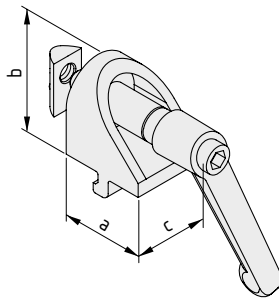

a [mm]	b [mm]	c [mm]	m [g]
18	18	16	19.0
1 set			0.0.437.84

**Angle Clamp Bracket 6**


a [mm]	b [mm]	c [mm]	m [g]
27	27	24	66.0
1 set			0.0.441.98

**Angle Clamp Bracket 8**


a [mm]	b [mm]	c [mm]	m [g]
36	36	32	130.0
1 set			0.0.457.77


**Angle Clamp Bracket 5 with Clamp Lever**


a [mm]	b [mm]	c [mm]	m [g]
18	18	16	51.0
1 set			0.0.437.85

**Angle Clamp Bracket 6 with Clamp Lever**


a [mm]	b [mm]	c [mm]	m [g]
27	27	24	103.0
1 set			0.0.441.99

**Angle Clamp Bracket 8 with Clamp Lever**


a [mm]	b [mm]	c [mm]	m [g]
36	36	32	225.0
1 set			0.0.457.78



## Angle Locking Bracket 8 80x40

### Secure fixing and rapid adjustment

- Toothed fastener reinforces rigid angled connection
- For inclined ledges and shelves
- Adjustment in 2.5° increments
- Easy to adjust without the need for tools

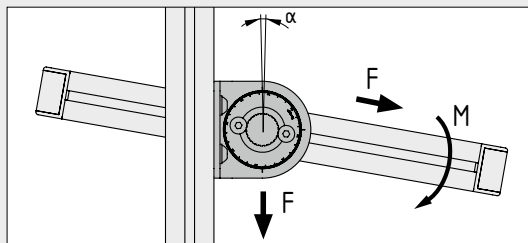


Angle Locking Bracket 8 80x40 is an ideal fastening element for adjustable fixtures. It enables the set-up and easy adjustment of ergonomic work benches. Typical areas of application include stand-alone shelves, shelving units, material trolleys, etc.

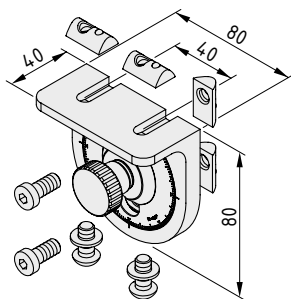
The Angle Locking Bracket is incredibly easy to adjust: When the knurled screw is loosened, spring pressure lifts the disc out of the tothing and enables adjustments to be carried out easily without the need for tools. The tothing creates an extremely strong rigid angled fixing. The angle of incline can be adjusted in 2.5° increments.



The Angle Locking Bracket is supplied preassembled and is screwed easily to Profiles 8 using the enclosed fastening elements without processing.



An adjustable profile frame with 2 Angle Locking Brackets 8 80x40 can withstand a force  $F_{\max} = 2000 \text{ N}$ . This profile frame has a permissible loading moment of:  $M = 100 \text{ Nm}$



### Angle Locking Bracket 8 80x40



Bracket and locking discs, die-cast aluminium, RAL 9006 white aluminium  
 Knurled screw M8x18, St, bright zinc-plated  
 2 compression springs, St  
 2 Button-Head Screws M8x18, St, bright zinc-plated  
 2 Hexagon Socket Head Cap Screws M8x18, St, bright zinc-plated  
 3 washers, St, bright zinc-plated  
 4 T-Slot Nuts 8 St M8, bright zinc-plated  
 $m = 290.0 \text{ g}$

1 set

0.0.615.59



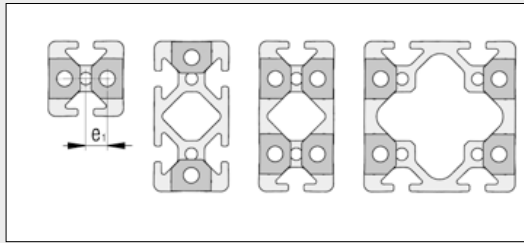
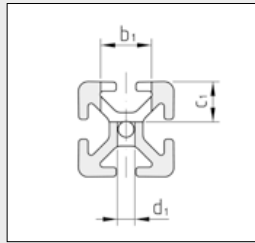
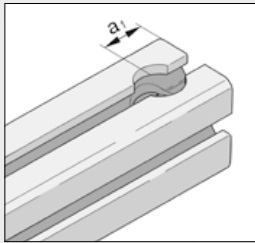


## Universal-Butt-Fastening Sets

- Connect identical profiles via their end faces



Extend the profiles only with the aid of the corresponding fastening elements and, where possible, support them at the joints.



Universal-Fastening Sets should always be used in pairs.

Universal-Fastening Set

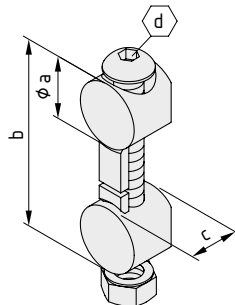
	5	6	8	10	12
$a_1$	10.0 mm	15.0 mm	20.0 mm	25.0 mm	30.0 mm
$b_1$	Ø 12.0 mm	Ø 16.0 mm	Ø 20.0 mm	Ø 25.0 mm	Ø 30.0 mm
$c_1$	8.5 mm	12.7 mm	16.0 mm	20.0 mm	24.0 mm
$d_1$	Ø 4.3 mm	Ø 5.5 mm	Ø 7.0 mm	Ø 9.0 mm	Ø 12.0 mm
$e_1$	5.8 mm	8.7 mm	12.0 mm	15.1 mm	17.8 mm

The following applies to all the sets below:

2 Universal Fasteners, die-cast zinc

Screw, St

Hexagon nut, St



Universal-Butt-Fastening Set 5

a [mm]	b [mm]	c [mm]	d [mm]	$M_{bzp}$ [Nm]	m [g]
12	32	8.5	3	3.0	10.0
bright zinc-plated, 1 set					0.0.370.32

Universal-Butt-Fastening Set 5

a [mm]	b [mm]	c [mm]	d [mm]	$M_{stainl}$ [Nm]	m [g]
12	32	8.5	3	2.5	10.0
stainless, 1 set					0.0.437.55



**Universal-Butt-Fastening Set 6**

a [mm]	b [mm]	c [mm]	d [mm]	M <sub>bz-p</sub> [Nm]	m [g]
16	46	12.6	4	8.0	27.0
bright zinc-plated, 1 set					0.0.419.53

**Universal-Butt-Fastening Set 6**

a [mm]	b [mm]	c [mm]	d [mm]	M <sub>stainl.</sub> [Nm]	m [g]
16	46	12.6	4	6.5	27.0
stainless, 1 set					0.0.441.77

**Universal-Butt-Fastening Set 8**

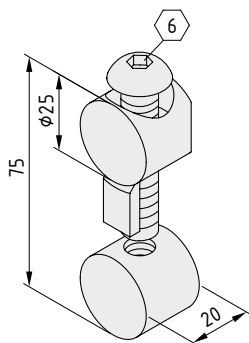
a [mm]	b [mm]	c [mm]	d [mm]	M <sub>bz-p</sub> [Nm]	m [g]
20	60	16	5	25	60.0
bright zinc-plated, 1 set					0.0.265.46

**Universal-Butt-Fastening Set 8**

a [mm]	b [mm]	c [mm]	d [mm]	M <sub>stainl.</sub> [Nm]	m [g]
20	60	16	5	20	60.0
stainless, 1 set					0.0.440.94

**Universal-Butt-Fastening Set 12**

a [mm]	b [mm]	c [mm]	d [mm]	M <sub>bz-p</sub> [Nm]	m [g]
30	90	24	6	60	200.0
bright zinc-plated, 1 set					0.0.003.61

**Universal-Butt-Fastening Set 10**

Universal Fastener 10, St  
 Button-Head Screw ISO 7380-M10x50, St  
 Universal Butt-Fastener 10, St  
 $M_{\text{bright zinc-plated}} = 46 \text{ Nm}$       $m = 148.5 \text{ g}$

bright zinc-plated, 1 set					0.0.632.08
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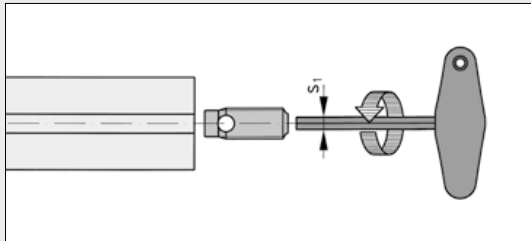


## Automatic Butt-Fastening Sets

- Connect identical profiles via their end faces
- No profile machining required



The Automatic Butt-Fastening Sets can be used to connect the end faces of two profiles from the same Line without mechanical processing. Automatic Butt-Fastening Sets should always be used in pairs. Depending on the profile size and load, several pairs may be necessary.

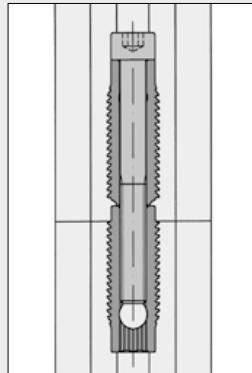


Automatic Butt-Fastening Set

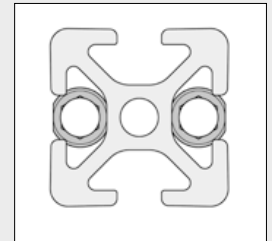
	5	6	8	12
$s_1$	4 A/F	5 A/F	6 A/F	8 A/F

The Fastener is screwed into a profile groove in the end face, the thread being cut automatically. Use of a lubricant is recommended.

Note: All Fasteners with a through bore for the fastening screw have a counter-clockwise thread on the outside in order to prevent the Fastener twisting when the screw is tightened. The Fasteners with internal threads have a clockwise thread on the outside.



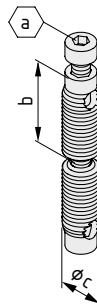
When driving the Fastener with internal thread into a profile, additional anti-torsion protection can be provided by leaving the end protruding out so that it projects into the groove opposite. The Fastener with through bore will then need to be driven far enough into the adjoining profile to accommodate it.



Automatic-Fastening Set 5 should be inserted so that the flattening on the thread is flush with the outer edge of the profile.

The following applies to all the sets below:

Automatic Fastener with through bore, St  
Automatic Fastener with threaded bore, St  
Hex. Socket Head Cap Screw, St



Automatic Butt-Fastening Set 5



a [mm]	b [mm]	c [mm]	$M_{bzp}$ [Nm]	m [g]
3	24	7	2.5	11.0
bright zinc-plated, 1 set				0.0.464.19

Automatic Butt-Fastening Set 5



a [mm]	b [mm]	c [mm]	$M_{stainl.}$ [Nm]	m [g]
3	24	7	2.5	11.0
stainless, 1 set				0.0.464.18

**Automatic Butt-Fastening Set 6**

a [mm]	b [mm]	c [mm]	M <sub>bz.p.</sub> [Nm]	m [g]
4	27	10	8.0	23.0
bright zinc-plated, 1 set				0.0.419.74

**Automatic Butt-Fastening Set 6**

a [mm]	b [mm]	c [mm]	M <sub>stainl.</sub> [Nm]	m [g]
4	27	10	6.5	23.0
stainless, 1 set				0.0.441.71

**Automatic Butt-Fastening Set 8**

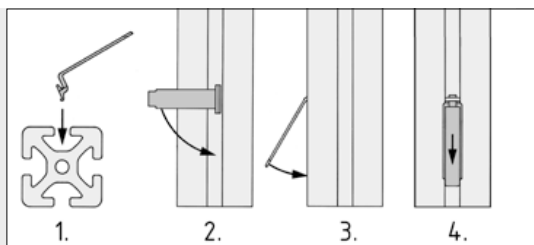
a [mm]	b [mm]	c [mm]	M <sub>bz.p.</sub> [Nm]	m [g]
5	31	12	14	43.0
bright zinc-plated, 1 set				0.0.406.80

**Automatic Butt-Fastening Set 8**

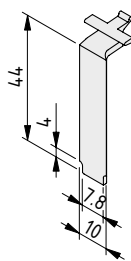
a [mm]	b [mm]	c [mm]	M <sub>stainl.</sub> [Nm]	m [g]
5	31	12	11	43.0
stainless, 1 set				0.0.444.15

**Automatic Butt-Fastening Set 12**

a [mm]	b [mm]	c [mm]	M <sub>bz.p.</sub> [Nm]	m [g]
6	47	18	34	140.0
bright zinc-plated, 1 set				0.0.003.51



A cover is available for Automatic-Fastening Set 8. It is fitted after the fastening has been installed.

**Automatic-Fastening Set 8 Cap**

PA-GF m = 0.7 g			
black, similar to RAL 9005, 1 pce.			0.0.388.66
grey similar to RAL 7042, 1 pce.			0.0.616.31



## Mitre-Butt-Fastening Sets

- Connect two profiles with the same mitre angle
- Overall angle of 60° to 180° possible



Mitre-Butt-Fastening Sets are suitable for connecting two profiles at an angle. They are used primarily when constructing frame elements and panel edging. The profile grooves facing each other inside the frame remain unobstructed so they can be used for holding panel elements.

Two mitred profiles (each with an identical angle  $\gamma$  between 30° and 90°) are connected together. This gives a possible angle between the profiles of ( $2\gamma$ ) between 60° and 180°.

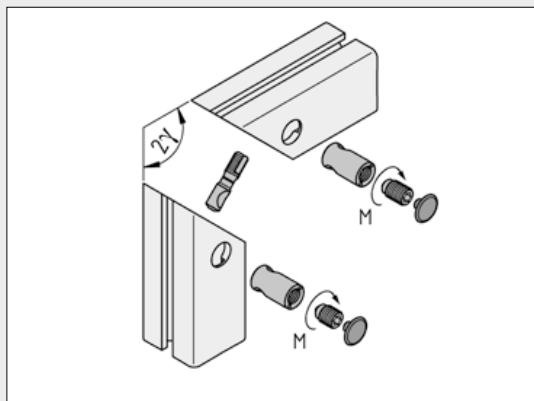
The position of the clamping pins at right angles to the cut profile edge generates particularly high clamping forces on the

fastening elements. The clamping screws are accessed from the side of the profile frame.

Note:

Despite the optimized design, the flow of forces across the inclined contact faces of the profiles is such that only part of the pretension of the screw connection is utilized. Mitre connections therefore have a lower load bear-

ing capacity than other, right-angled profile connections (Standard-Fastening, Universal-Fastening or Automatic-Fastening Set). Mitre-Fastening Sets should therefore not be used for constructing basic frames and safety-related parts that are subject to high loads.

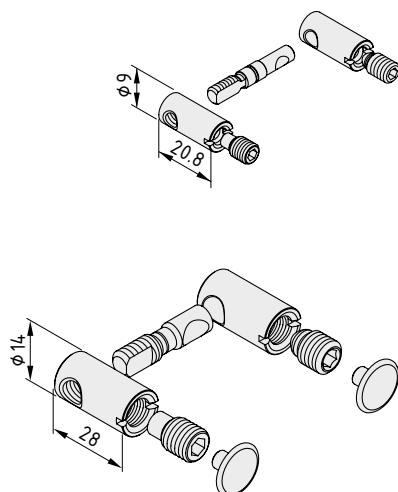


Connection processing of the profiles is the same as for the Mitre-Fastening Set. Your item dealer can provide the required mitre cuts and profile processing as a service.

Using the Mitre-Butt-Fastening Set:

1. Mitre-cut profile at angle  $\gamma$ .
2. Drill counterbores for the fastener sleeves into the side of each profile (use of drilling jig recommended).
3. Drill a hole into the mitred face of both profiles (use of drilling jig recommended).
4. Insert the fastener sleeve with lateral thread into the counterbore of one of the profiles and screw in the clamping pin until the perimeter mark is level with the cut profile edge.
5. Use grub screw DIN 915 to tighten the clamping pin in the fastener sleeve with thread.
6. Insert the fastener sleeve with bore into the second profile, and fit the assembly over the clamping pin.
7. Drive the special grub screw into the fastener sleeve and clamp the profile connection.
8. Fit the caps onto the fastener sleeves (Line 8).

Drilling Jig and Step Drill, Mitre Connection  580



### Mitre-Butt-Fastening Set 6



Clamping pin M5x29, St, bright zinc-plated  
Sleeve with bore, St, bright zinc-plated  
Threaded sleeve, St, bright zinc-plated  
Grub screw M6, St, bright zinc-plated  
Grub screw DIN 915-M6x10, St, bright zinc-plated  
m = 20.0 g

1 set

0.0.606.47

### Mitre-Butt-Fastening Set 8



Clamping pin M8x33, St, bright zinc-plated  
Sleeve with bore, St, bright zinc-plated  
Threaded sleeve, St, bright zinc-plated  
Grub screw M10, St, bright zinc-plated  
Grub screw DIN 915-M10x16, St, bright zinc-plated  
2 Caps, PA grey  
m = 58.0 g

1 set

0.0.492.25

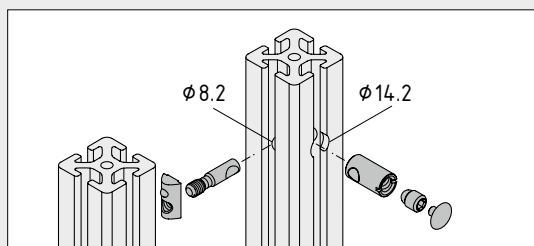
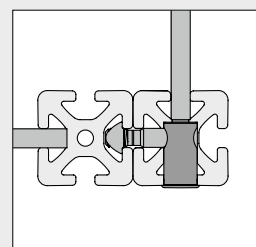
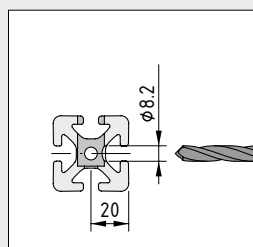
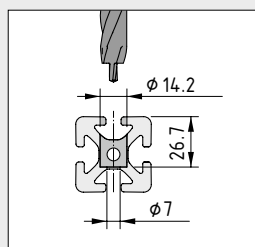
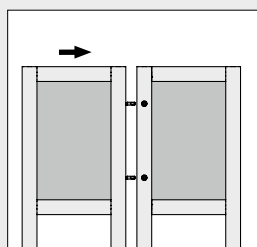
## Central-Fastening Set P 8

- Connect two parallel Profiles 8
- Flush connection for partitioning and room dividers



Central-Fastening Set P 8 can be used to quickly connect together individual, inherently stable partitions or partition elements side by side without time-consuming alignment procedures.

Unevenness in the ground can be compensated for by adjusting the position of the T-Slot Nut in the profile groove.



Profile processing: To accommodate the fastener sleeve, a  $\varnothing 14.2$  mm counterbore is drilled into the side of one of the profiles being connected (using Step Drill 0.0.492.60) along with a  $\varnothing 8.2$  mm fastening hole located perpendicular to this.

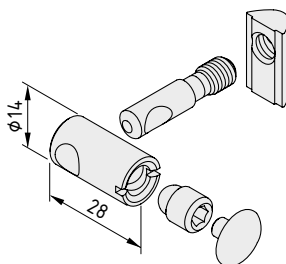
T-Slot Nut V 8 St M8 is fitted into the facing groove of the second profile and the clamping pin is screwed into this T-Slot Nut as far as the marking.

After the clamping pin has been inserted into the fastener sleeve, the profile connection is tightened with an M10 grub screw (tightening torque  $M = 15$  Nm).

N.B.: At least 2 grooves always remain free for fitting panel elements into the profile grooves. Frame elements can also be connected to each other at an angle of  $90^\circ$  by positioning Central-Fastening Set P 8 appropriately.

Drilling Jig and Step Drill, Mitre Connection 580

### Central-Fastening Set P 8



Clamping pin, St, bright zinc-plated  
T-Slot Nut V 8 St M8, bright zinc-plated  
Threaded sleeve with bore, St, bright zinc-plated  
Grub screw M10, St, bright zinc-plated  
Cap, PA, grey  
 $m = 44.0$  g

1 set

0.0.619.69



## Parallel Fastener 8

**Holds by itself**

- Connect two parallel Profiles 8
- No machining required
- Easy to use thanks to snap-in function



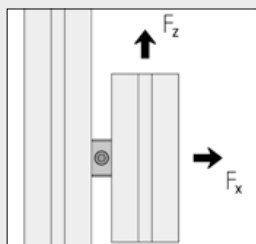
Element for fastening two parallel Line 8 Profiles at a distance of 12 mm.

Parallel Fastener 8 is very easy to use: Both halves of the spring loaded fastener engage in the profile grooves facing

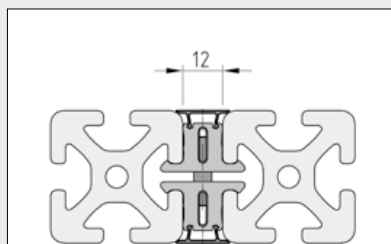
each other. This fixes the profiles in position. The fastener is then clamped by tightening an internal screw.



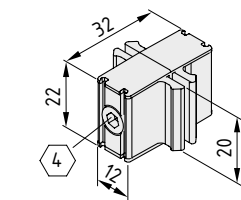
Max. torque for the tensioning screw:  
 $M = 2.5 \text{ Nm}$



Permissible loading force per Fastener:  
 $F_x = 1,000 \text{ N}$   
 $F_z = 100 \text{ N}$



Using the Parallel Fastener 8 Cover Profile:  
The gap (12 mm wide) between the profiles which is generated when Parallel Fastener 8 is used can be covered in full using this profile. The Cover Profile must be fitted over at least 2 Parallel Fasteners 8. Parallel Fastener 8 Cover Profile Cap covers the end-face gap between the profiles when using Parallel Fastener 8 Cover Profiles.

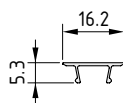


### Parallel Fastener 8

2 clamping elements, Al, anodized natural  
Housing, PA-GF, black  
Compression spring  
Tensioning screw, St, bright zinc-plated  
 $m = 21.0 \text{ g}$

1 set

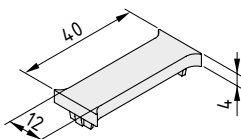
0.0.476.58



### Parallel Fastener 8 Cover Profile

Al, anodized  
 $m = 50 \text{ g/m}$   
natural, 1 pce., length 2000 mm

0.0.476.59



### Parallel Fastener 8 Cover Profile End Cap

PA-GF  
 $m = 2.5 \text{ g}$   
black, 1 pce.

0.0.476.60

## Connection Profiles

**Connect Profiles 8 to make extra strong supports**

- Simple engineering for stable composite profiles
- For open and closed supports
- Suitable Cover Profile for easy-to-clean surfaces

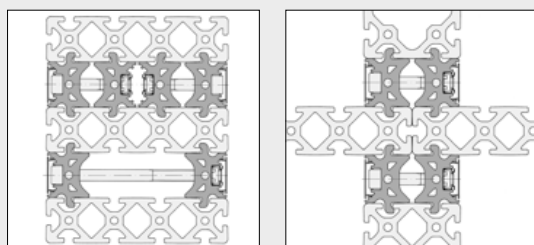


Connection Profile 8 40 is supplied in pairs and machined with 11 mm  $\varnothing$  bores (bore spacing 200 mm) for the fastening screws.

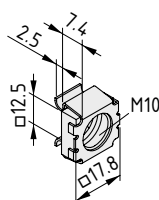
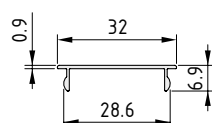
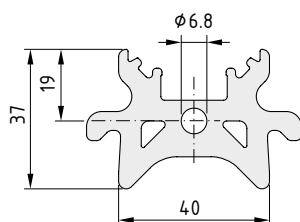
The use of Captive Nuts (designed to fix positions and prevent

torsion) allows the Connection Profile to be fitted from one side. DIN 912-M10x60, M10x100 or M10x140 Hexagon Socket Head Cap Screws (tightening torque  $M = 34 \text{ Nm}$ )

are inserted at the relevant predetermined positions to join Connection Profiles. The joint and/or screw heads and Captive Nuts can be covered over with a dust-tight Cover Profile 32.



Hexagon Socket Head  
Cap Screw DIN 912 153  
M10x60



### Connection Profile 8 40

Al, anodized

(The values apply for an individual profile section and not for a pair)

A [cm <sup>2</sup> ]	m [kg/m]	I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	I <sub>t</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]
8.97	2.42	5.73	19.85	4.53	2.90	6.96
natural, cut-off max. 6000 mm, 1 pair						0.0.422.35
natural, 1 pair, length 6000 mm						0.0.453.90

### Cover Profile 32

Al, anodized

A [cm²]	m [kg/m]
0.41	0.11
natural, cut-off max. 3000 mm	0.0.420.43

### Captive Nut M10

Cage and square nut, St

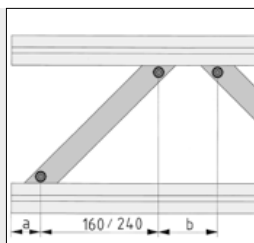
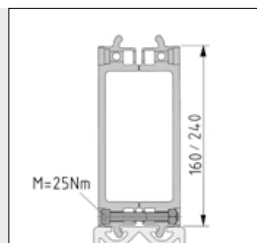
m = 8.0 g

bright zinc-plated, 1 pce.	8.0.004.02
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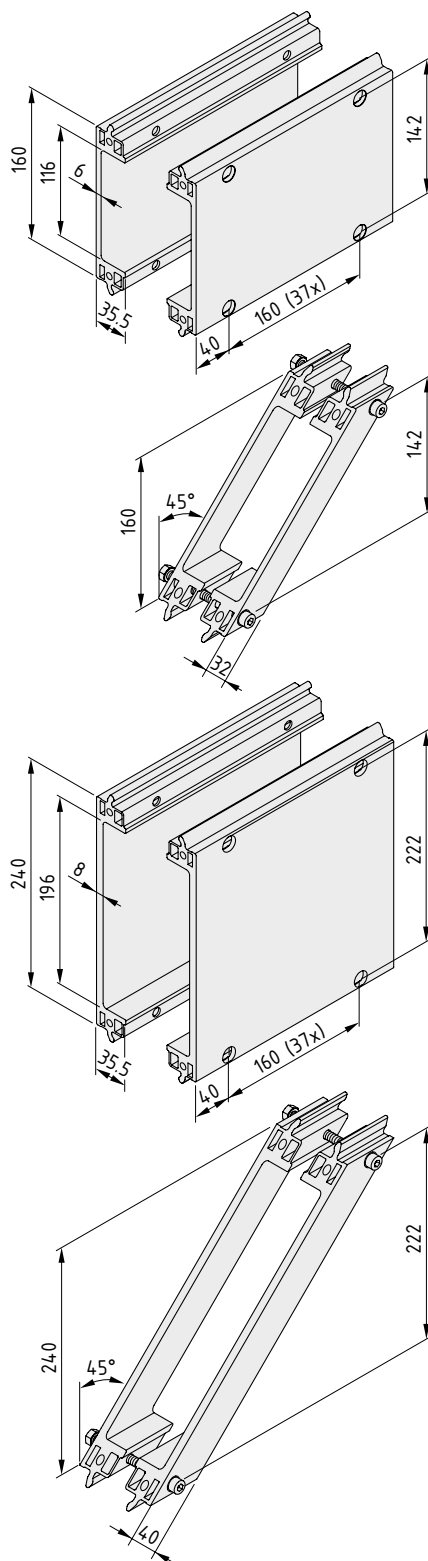
Connection Profiles 8 160 and 8 240 are supplied in pairs and machined with bores for the DIN 912-M8x60 fastening screws and DIN 934-M8 Hexagon Nuts.

The Connection Profile Braces 8 are ready-to-install kits complete with screws and nuts.

Hexagon Socket Head  
Cap Screw DIN 912 153  
M8x60



The Connection Profile Braces (45° sections of the Connection Profiles) are suitable for constructing lightweight, open "composite profiles". These Connection Profile Braces consist of left and right diagonal sections together with the corresponding nuts and bolts. They can be retrofitted at any point and any distance (dimension a / b) along the profiles which are being joined. With a fixed spacing of 160 or 240 mm, the Connection Profiles Braces represent an inexpensive alternative to the latticework construction.



### Connection Profile 8 160

8

Al, anodized

(The values apply for an individual profile section and not for a pair)

A [cm <sup>2</sup> ]	m [kg/m]	I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]
17.80	4.76	16.70	606.30	67.80	6.70
natural, cut-off max. 6000 mm, 1 pair					0.0.458.03
natural, 1 pair, length 6000 mm					0.0.458.08

### Connection Profile Brace 8 160-45°

8

Al, anodized, natural

Brace right

Brace left

2 Hexagon Socket Head Cap Screws DIN 912-M8x60, St, bright zinc-plated

2 Hexagon Nuts DIN 934-M8, St, bright zinc-plated

a<sub>min.</sub> = 33 mm (recommended 40 mm)

b<sub>min.</sub> = 65 mm (recommended 80 mm)

m = 488.0 g

1 set	0.0.458.18
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### Connection Profile 8 240

8

Al, anodized

(The values apply for an individual profile section and not for a pair)

A [cm <sup>2</sup> ]	m [kg/m]	I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]
26.00	6.97	19.20	1,804.00	139.30	7.10
natural, cut-off max. 6000 mm, 1 pair					0.0.458.17
natural, 1 pair, length 6000 mm					0.0.458.14

### Connection Profile Brace 8 240-45°

8

Al, anodized, natural

Brace right

Brace left

2 Hexagon Socket Head Cap Screws DIN 912-M8x60, St, bright zinc-plated

2 Hexagon Nuts DIN 934-M8, St, bright zinc-plated

a<sub>min.</sub> = 38 mm (recommended 40 mm)

b<sub>min.</sub> = 76 mm (recommended 80 mm)

m = 846.0 g

1 set	0.0.458.21
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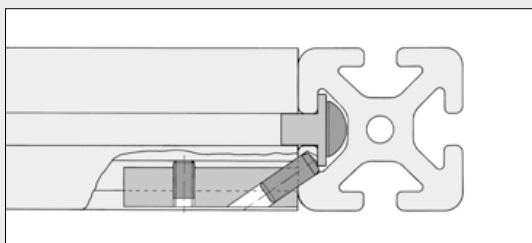


## Pin Elements

- Excellent resistance against impact and overload
- Additional rigidity from dowel pin

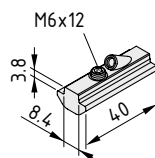


The Pin Element is used to add extra rigidity to power-lock connections, e.g. between horizontal braces and continuous vertical profiles which are subject to heavy load. Preferably used in pairs, Pin Elements can provide additional support for Standard, Universal and Automatic Fasteners.



The Pin Element is inserted into the profile groove through the end face and, after applying the Standard, Universal or Automatic Fasteners, is then pushed to the end of the profile and fixed in position. A hole (Line 8:  $\varnothing$  5.9 mm; Line 12:  $\varnothing$  9.9 mm) is drilled in the profile to accommodate the dowel.

Each element that is deployed increases the displacement resistance of the connection to a maximum of 3,000 N (Line 8) or 6,000 N (Line 12).



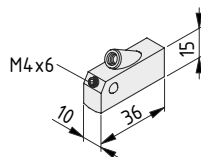
### Pin Element 8



Body, St, bright zinc-plated  
Grub screw DIN 916-M6x12, St, bright zinc-plated  
Dowel ISO 8735-6m6x16, St, hardened  
m = 34.0 g

1 pce.

0.0.265.37



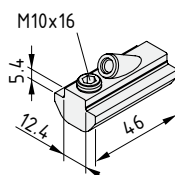
### Pin Element 10



Basic unit, St, bright zinc-plated  
Grub screw DIN 914-M4x6, St, bright zinc-plated  
Dowel ISO 8735-8m6x16, St, hardened  
m = 48.3 g

1 pce.

0.0.624.87



### Pin Element 12



Body, St, bright zinc-plated  
Grub screw DIN 913-M10x16, St, bright zinc-plated  
Dowel ISO 8735-10m6x24, St, hardened  
m = 100.0 g

1 pce.

0.0.010.06