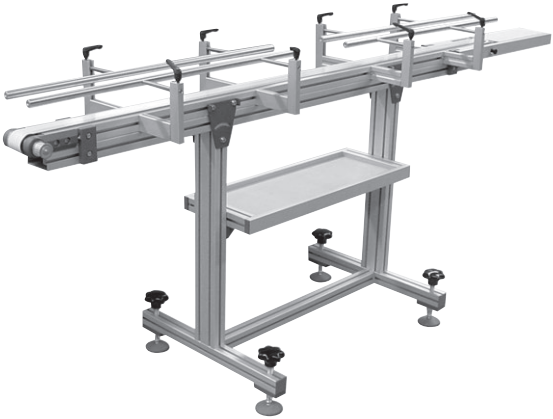


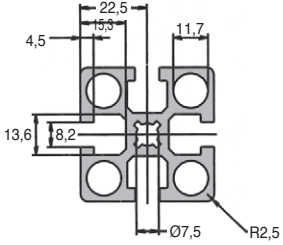
Band conveyors with adjustable longitudinal stops for height and width

Sections

Base dimension is 45mm
All profiles share same profile
All slots are identical
Any combination of profiles is possible.

Centrally drilled holes

Uniform 7.5-0.3mm
M8 thread must be tapped without producing swarf by use of a fluteless tap
Can be increased up to ø M12

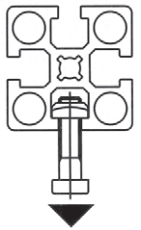


Aluminium profiles for creating all types of modular structures

Slot

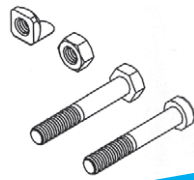
Identical shape for all profiles from 19 to 90mm; Width of slot: 8.5-0.3mm. Slot are designed for CHC M8 screws (head ø = 13mm), M8 nuts (Dimension across flats 13mm) as well as four-sided and six-sided M8 nuts.

Applicable load



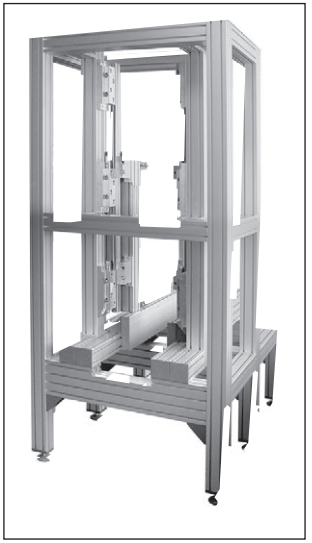
F = 6000N

Acceptable nuts/screws

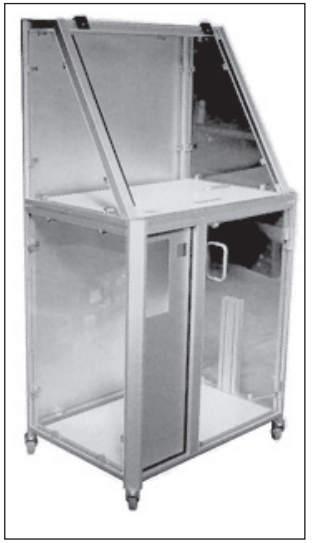


Slotaccepts M8 screwheads

Packaging line with roller conveyors



Test benches with integrated linear systems



Test benches

Material

Material: Al Mg Si 0.5 F 25
Specific weight: 2.75 g/cm³
Material n°: 3.3206,72 tempered
Tensile strength: min. Rm = 245 N / mm²
0.2% Elastic limit: min. Rp 0.2 = 200 N / mm²
A5 Elongation: > 10%
A10 Elongation: > 8%
Elastic coefficient: E: 70000 N / mm²
G : 27000 N / mm²
Brinell hardness: ca. 75 HB 2.5 / 187.5
Expansion coefficient: 23,8 . 10^{-6} K^{-1}

Surface

Surface: Anodised aluminum E6/EV1, colourless
Treatment depth: ca.10um
Hardness: 250 - 350 HV

Geometric tolerances

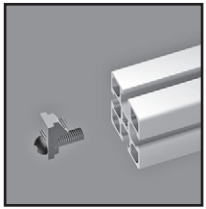
Geometric tolerances: DIN17615
External dimensions: 0.2 to 0.4 mm
Straightness: max. 1.5mm / 2 m
Flatness: max. 1.5mm / 2 m

As a general rule, the average tolerance values following the German standard DIN 17615 have been respected.

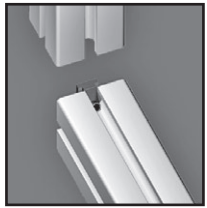
Very simple assembly thanks to the PRF-FIX-UNI universal fixing system

- Cheap
- Requires very little preparation
- Wide range of uses
- Very easy to use
- Antirotation guaranteed

No drilling



1



2

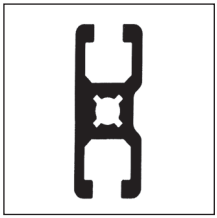
3

Standard aluminium profiles

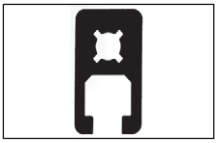
MiniTec

- Profiles are **shown at approx half-size**

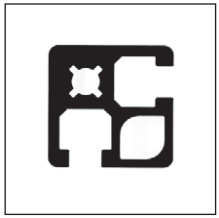
Profile 19 x 45: PRF1945-3



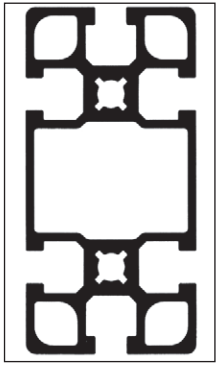
Profile 19 x 32: PRF1932-3



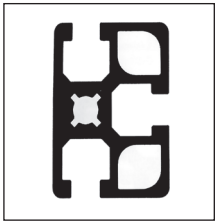
Profile 32 x 32: PRF3232-3



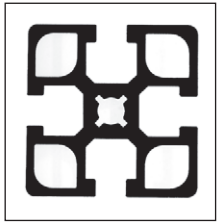
Profile 45 x 90: PRF4590-3

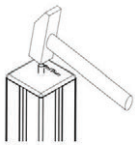


Profile 45 x 32: PRF4532-3



Profile 45 x 45: PRF4545-3 and PRF4545-3/SS



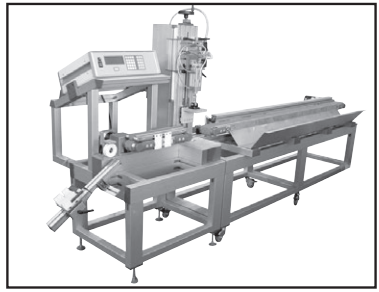


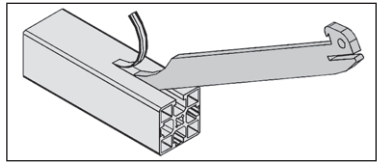
- **Fitting the cap**

- Force the pin using a mallet
  To remove, drill out the pin

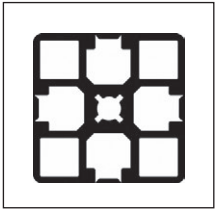
CREATE THE SLOT LENGTH YOU NEED !

For uses that require the highest standards of hygiene:
- *No product retention*
- *Ideal for agro-food, chemical, and pharmaceutical industries*

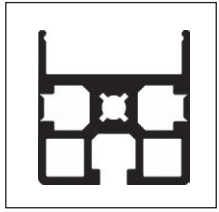




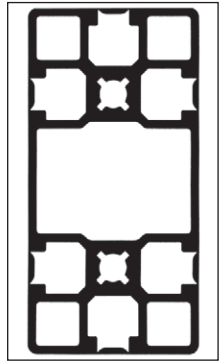
Profile 45 x 45: PRF4545-3/P



Chute profile 45 x 45: PRF4545-G-3



Profile 45 x 90: PRF4590-3/P

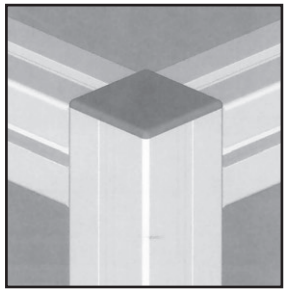


Profiles represented ***at the scale of about 1/2***

PRF *aluminium profile assembly*

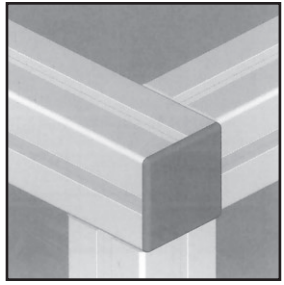
MiniTec

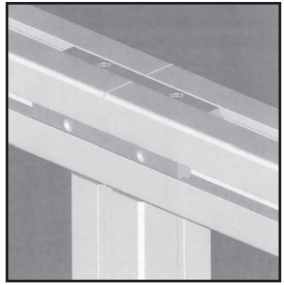
Good!



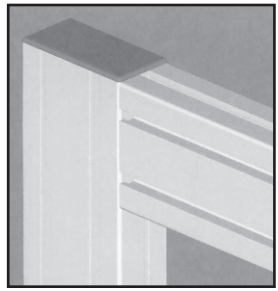
If possible join the horizontal crossheads to the vertical posts

Bad!

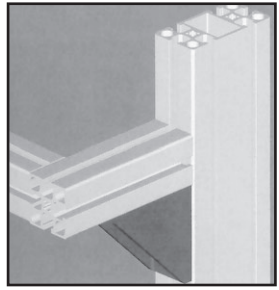




If possible join 2 profiles end to end on a support profile



To reduce prefer an deflection, favour the upwards assembly of rectangular profiles

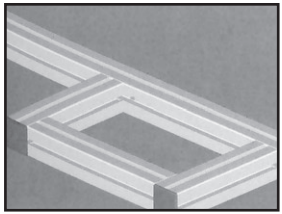


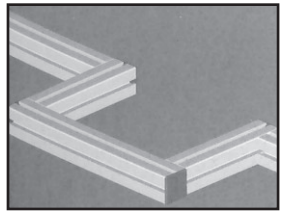
Frames subjected to large torque can be reinforced with a right angle

Good!

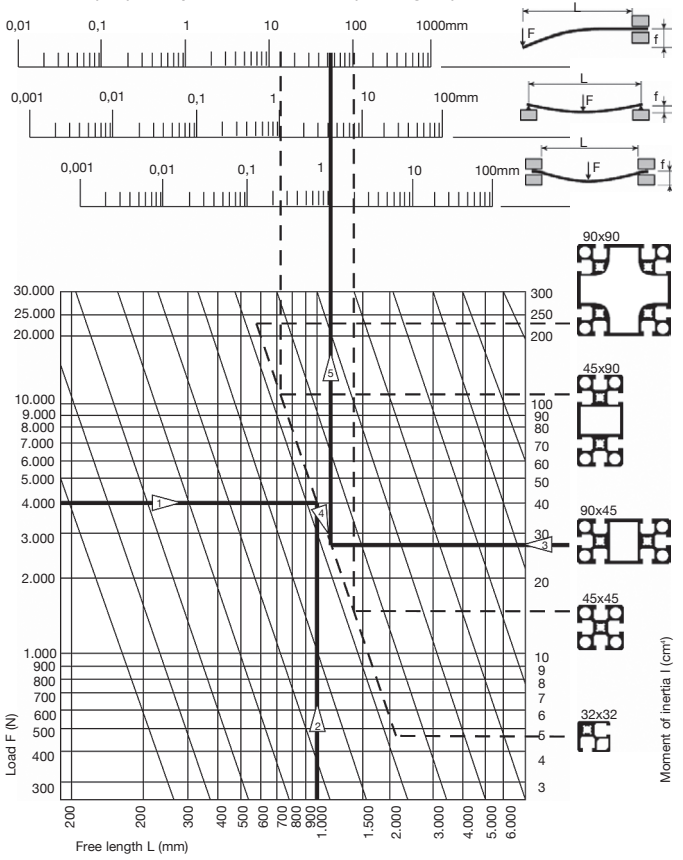
Bad!

Avoid interrupting the carrying profile





Deflection f (mm), for a punctual static load F (see diagram)



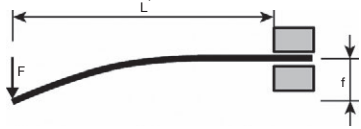
The different formulae and equations can only be applied to punctual static loads. For any other kind of load, refer to appropriate methods of calculation.
The security coefficients applicable to profiles are those used all the time in mechanics.

Material resistance calculation
Profile deflexion calculation

Example	*f = Deflection*	*mm*
	F = Load	*8 000 N*
	L = Length	*700 mm*
	I = Moment of inertia	*30.4 cm⁴*
	E = Elastic coefficient	*70 000 N/mm*

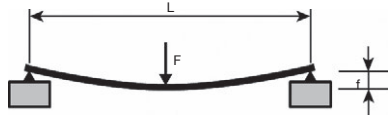
1st example:

$$f = \frac{F \times L^3}{E \times I \times 3 \times 10^4} = 42.1 \text{ mm}$$



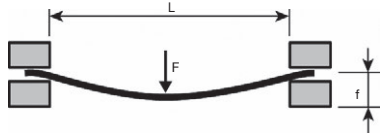
2nd example:

$$f = \frac{F \times L^3}{E \times I \times 48 \times 10^4} = 2.7 \text{ mm}$$



3rd example:

$$f = \frac{F \times L^3}{E \times I \times 192 \times 10^4} = 0.67 \text{ mm}$$



On the previous page, you can easily reference the result at the top of the table. To determine the value of the deflection, follow the order indicated by the arrows.

Deflection (f)	1	2	3	4	5
Load (F)	3	5	2	4	1
Profile section	1	2	5	4	3
Free length (L)	3	5	1	4	2

Stainless steel standard profile

PRF4545 MiniTec — Section: 45x45 mm

- Profile for creating modular structures
- To be cut to length once supplied
- Material: stainless steel 1.4301 (X5 CrNi 18-10)

Accessories

- Universal fixation **PRF-FIX-UNI/SS**
- Stainless steel standard screws (CHC DIN912)
- Stainless steel nuts **PRF-ECL/SS**
- Rod end screw fixing **FHC8-16/SS/B**

Uses

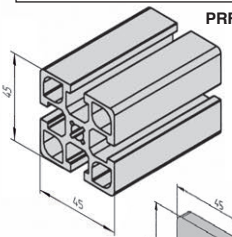
- Food industry
- Outdoor applications
- Chemical industry
- Pharmaceutical industry
- High ambient temperature applications

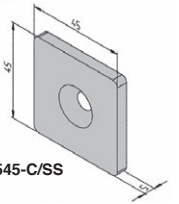
Advantages

The advantages are the same as for aluminium profiles:

- Same modularity across the complete range
- Slots accept M8 screws
- Compatible with the entire range
- Only 1 type of thread (M8) used across the range
- No special tooling required
- Assemblies can be made in all 4 axes
- Slots can support panels

PRF4545-3/SS





PRF4545-C/SS

DISCOUNTS profile

Qty.	1+	5+	10+
Disc.	List	-5%	On request

DISCOUNTS cover

Qty.	1+	50+	100+
Disc.	List	-5%	On request

Part number	Ix (cm⁴)	Iy (cm⁴)	Length (mm)	Weight (kg/m)	Price each
Profile					
PRF4545-3/SS	6,47	6,47	3000	2,778	221,07 €
Cover					
PRF4545-C/SS			End cap		9,97 €

Dimensions in mm