

PROFILE SYSTEM VA

Part. N° 95.0170/0

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ABOUT US



The Company

MiniTec was founded on the sales of miniature linear guides. Now we also design complete machines and devices, but we kept the name MiniTec.

In addition to our factories in Germany, France, UK and the US, we have customer service partners in more than 25 countries. They are in prime locations to provide consultation, on time delivery and on-site assembly.

The Production Program

Our linear technique combined with the Profile System is the ideal partnership. The components work together to provide optimum performance. The modular assembly system makes it possible to manufacture to unique specifications and can be produced quickly and cost effectively.



The Quality

Linear technique requires rigorous precision. Therefore we work with up-to-date machines and use the newest technologies. As quality is very important at MiniTec, we set the same high standards for all of our products, design and administrative procedures. MiniTec is certified in DIN EN ISO 9001 and 14001.

The Environment

Our company mission stresses an active role in environmental protection and the conservation of our natural resources. As an example, we choose our service locations in close proximity to our customers to avoid long transits. Our environmental management system is certified in DIN EN ISO 9001 and 14001.

The Occupational Health and Safety

Since 2006 is our company certified with the OHSAS 18001 – Occupational Health and Safety Assessment Series.



The Innovation

For MiniTec, innovation doesn't just mean better products. We strive to continually improve our processes as well. Constant training of our staff and a solid working relationship with Research and Education Institutions create the foundation for ongoing innovation.

PROFILE SYSTEM VA

The new profile-generation

Many new applications are possible with the new stainless steel SUS304 45 x 45 VA profile.

This profile was designed for applications where aluminium profile is not suitable such as acidic, chemical or exposure to high temperatures.

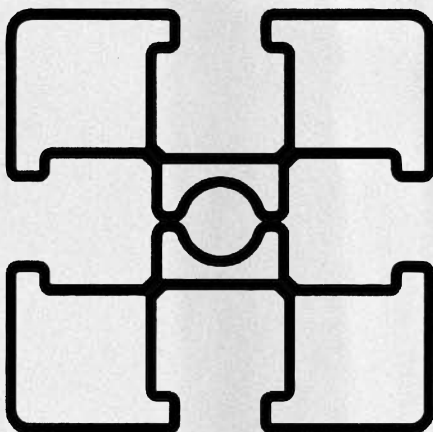
All the advantages of our approved profilsystem also apply for the stainless profiles:

- Strict modular design
- T-slots are designed for standard screws and nuts
- Compatible to all components of our standard system
- ESD-conducting

Assembly with patented power-lock fastener made from stainless-steel:

- Minimal processing: 1 thread M8 in central bore
- No special tools required
- Subsequently adjustable
- Power-locked in correct position
- Easy construction of cross-joints
- Grooves remain free for panel elements etc.
- Connection is invisible from the outside

Profile 45 x 45 VA



PROFILE SYSTEM VA - TECHNICAL DATA

Material	X5 Cr Ni 18-10	stainless steel DIN EN 10 088
	Specific weight:	7,9 g / cm ³
	Material No.:	1.4301 cold rolled
	tensile strength (in pressing direction)	min. R _m = 540 N / mm ²
	0,2 % elastic limit:	min. R _{p0,2} = 230 N / mm ²
	fracture strain:	> 35%
	Module of elasticity:	E: 200 000 N / mm ² G: 80 000 N / mm ²
	Brinell hardness:	ca. 162 HB
	Thermal extension:	11,5 · 10 ⁻⁶ mm/ ^o K

Surface bare

Tolerances		DIN ISO 2768 - c
	Outer dimensions:	± 0,3 mm
	Straightness deviation:	0,001 x L

Core drilling uniform 7.5 - 0.6 mm

Thread former M8 has to be used!

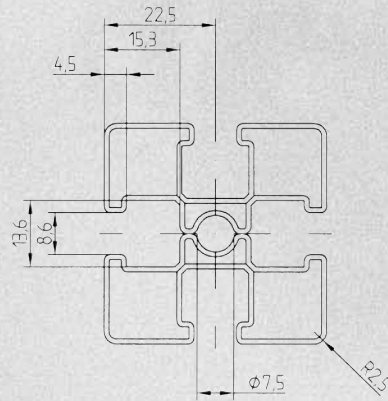
Grid Dimension basic grid 45 mm

Because of identical t-slots, the profile 45 x 45 VA is absolutely compatible with our aluminium profile-system

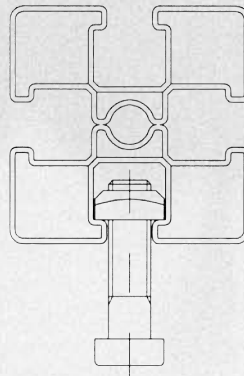
T-SLOT SYSTEM

T-slots Width: 8,6 - 0,4 mm.
The t-slots are designed for standard M8 screws (head \varnothing 13 mm) and standard nuts with an outer dimension of 13 mm. Square and hexagonal nuts and screws are locked in position in the t-slot.

Basic dimensions

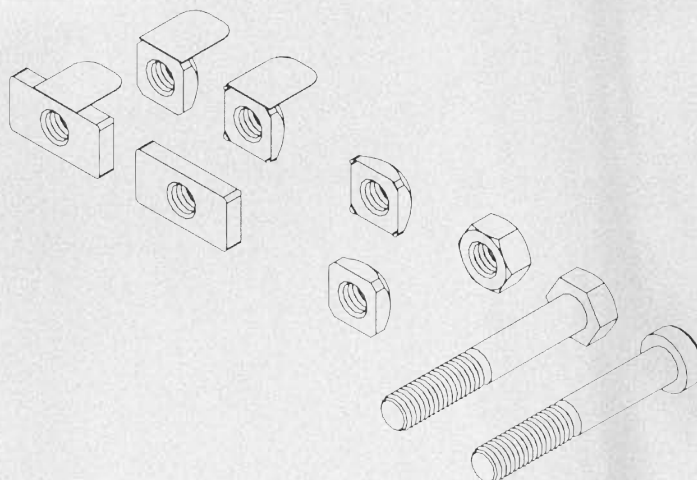


Load capacity



$F = 6000 \text{ N}$

Usable screws and nuts



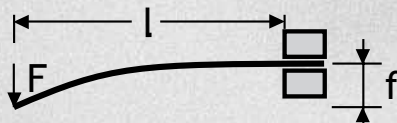
DEFLECTION OF MINITEC STAINLESS-STEEL PROFILES

The following formulas and calculation examples apply to static and punctual load. Calculated on the basis of extreme values. Please use the relevant literature to determine further loads. At dynamic load, reduced values should be used. Please also consider the relevant security values for mechanical engineering.

Calculation of deflection of MiniTec stainless-steel profiles

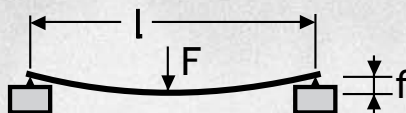
Example	f = Deflection	x mm
	F = Load	1 000 N
	L = Free length	900 mm
	I = Geom. moment of inertia	6.6 cm ⁴
	E = Modulus of elasticity	200 000 N / mm

Case 1



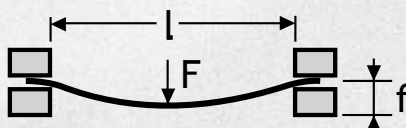
$$f = \frac{F \times L^3}{E \times I \times 3 \times 10^4} = 18,58 \text{ mm}$$

Case 2



$$f = \frac{F \times L^3}{E \times I \times 48 \times 10^4} = 1,17 \text{ mm}$$

Case 3

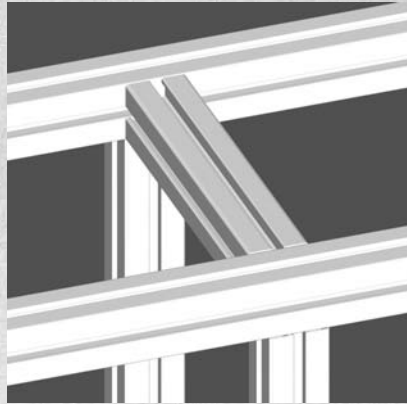
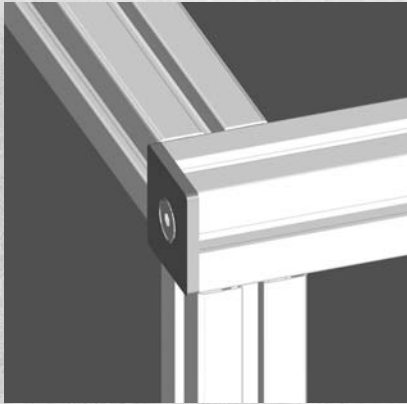


$$f = \frac{F \times L^3}{E \times I \times 192 \times 10^4} = 0,29 \text{ mm}$$

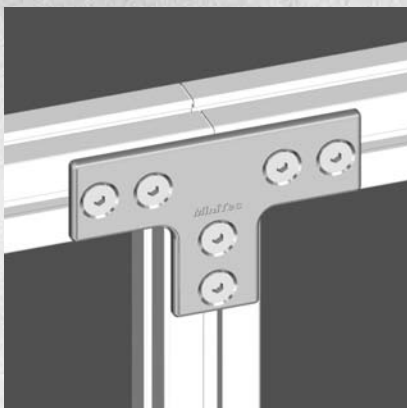
ASSEMBLY TIPS

Connection with power-lock fastener:

Assemble loaded profiles full-length.



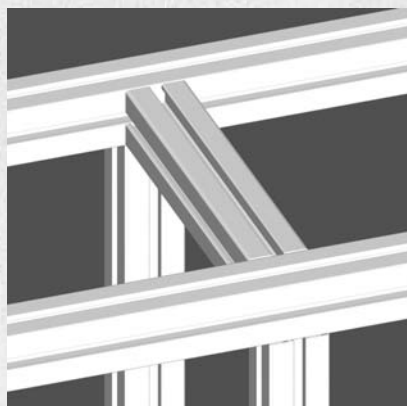
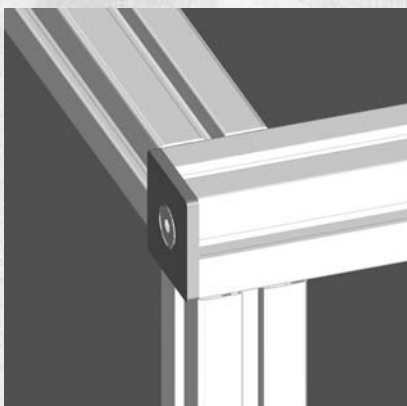
Support t-joints.



For heavier constructions:

Connection with strengthening-sheets and for angles.

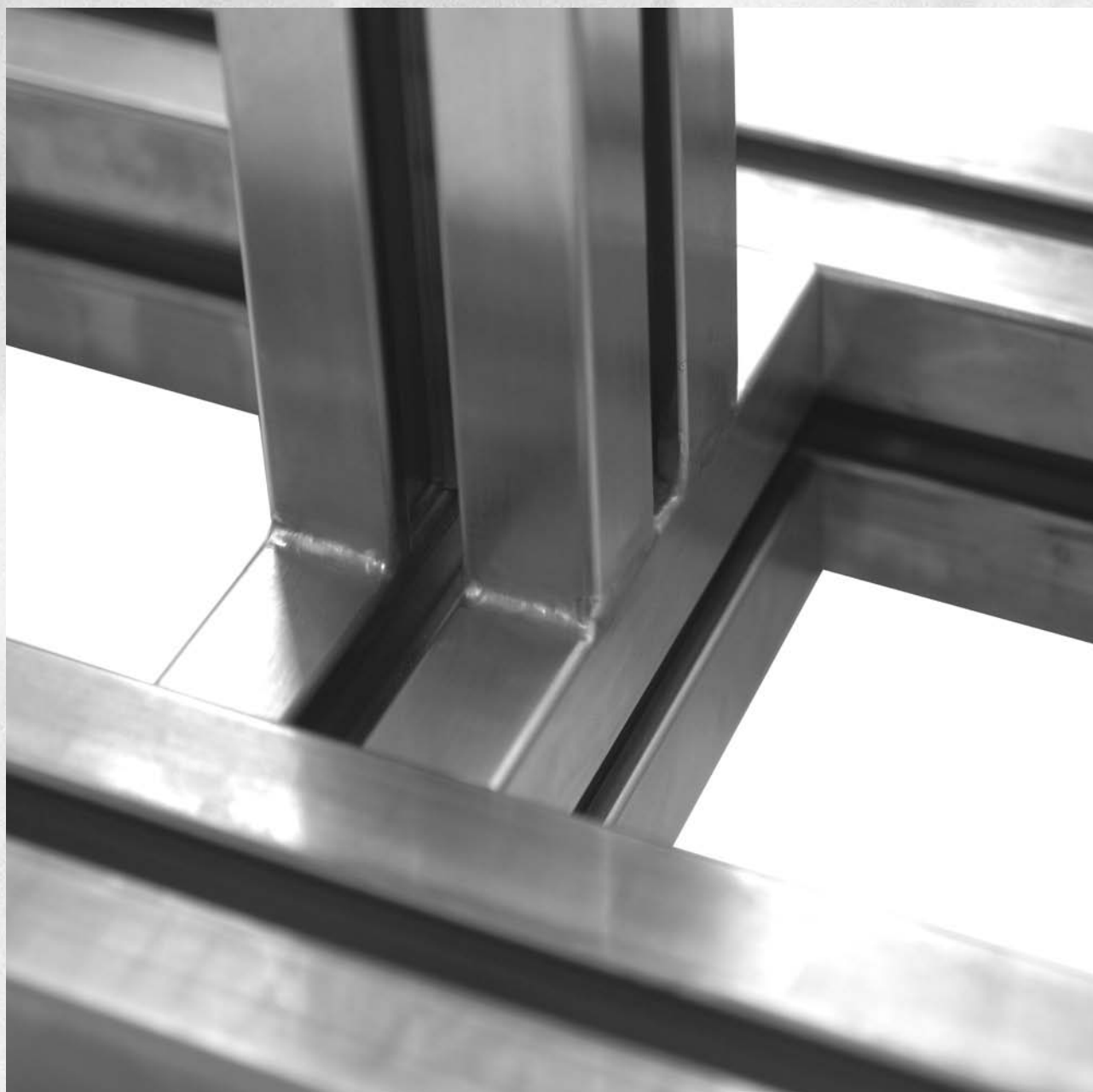
Use power-lock fasteners if tractive forces appear.



SPECIALITIES

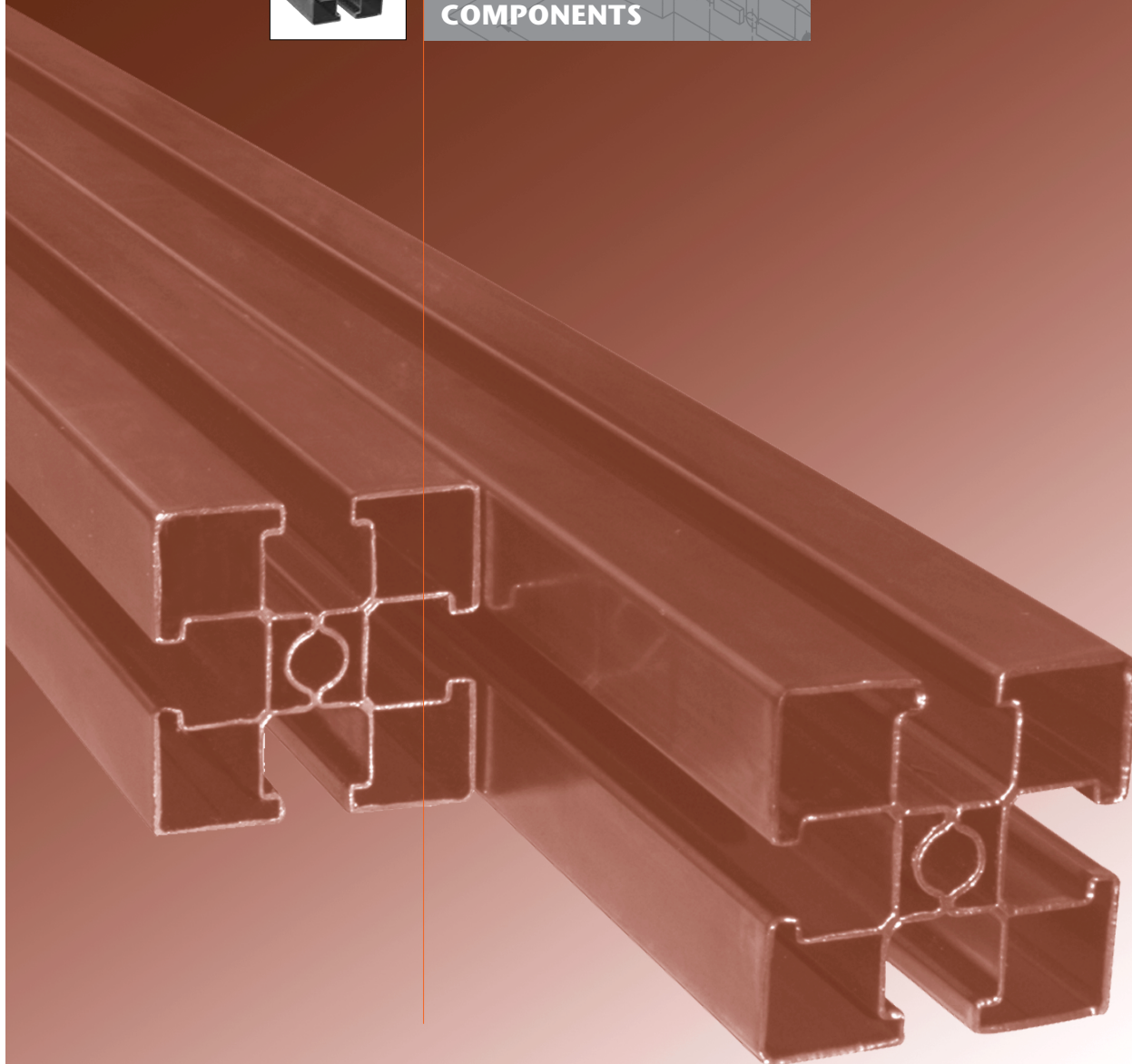
Welding of special solutions

Another important advantage of the new profile generation VA is the possibility of welding. In this way you can connect the profiles or you can weld on other parts made from stainless steel. Welding increases the load capacity for stainless steel frames. The MiniTec continuous T-slot system also means that frames can be extended at anytime.



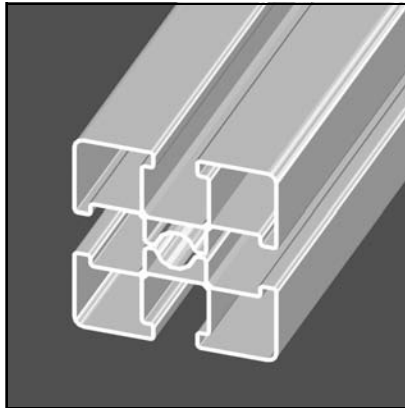
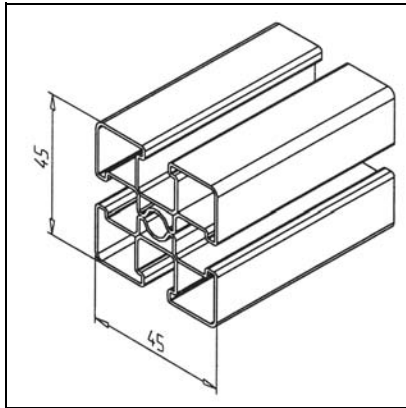


PROFILE SYSTEM VA
COMPONENTS



PROFILE 45 X 45 VA

Part. N° 20.2000/0

**TECHN. DATA / ITEMS SUPPLIED**

- Material:	WN DIN 1.4301 (X5 CrNi 18-10, SUS 304)
- Modulus of elasticity:	200000 N/mm ²
- Length:	6 m
- Weight:	2,759 kg/m
- Ix / Iy	6,47 cm ⁴
- Wx / Wy	2,88 cm ³

APPLICATIONS

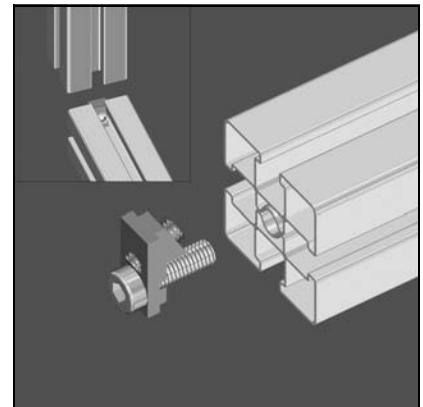
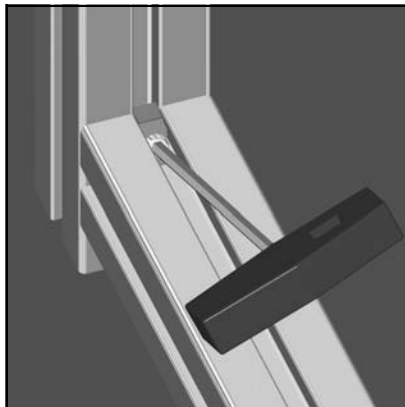
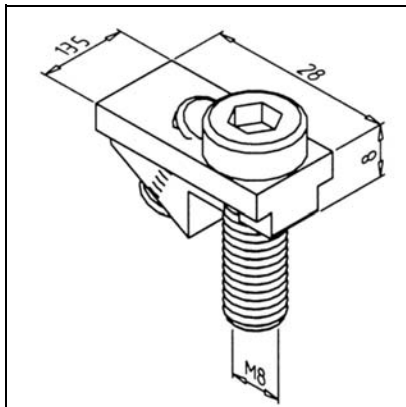
- Drinks- and beverage food Industry
- Outdoor constructions
- Chemical industry
- Pharmaceutical industry
- High temperatures

ASSEMBLY

- Power lock fastener H
- Angles
- Screws M8, stainless

MINITEC POWER-LOCK FASTENER STAINLESS

Part. N° 21.1018/1

**TECHN. DATA / DELIVERY CONTENTS**

- 1 connecting element, stainless-steel
- 1 hex socket cap screw M8x25, stainless steel

APPLICATIONS

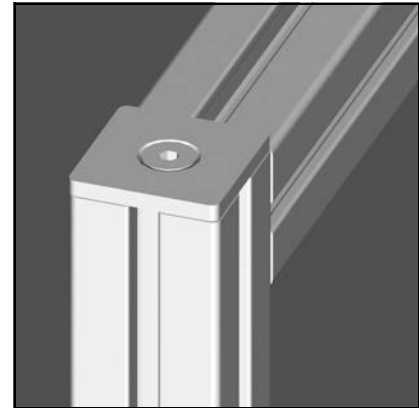
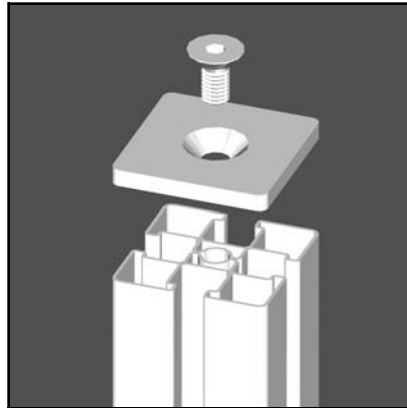
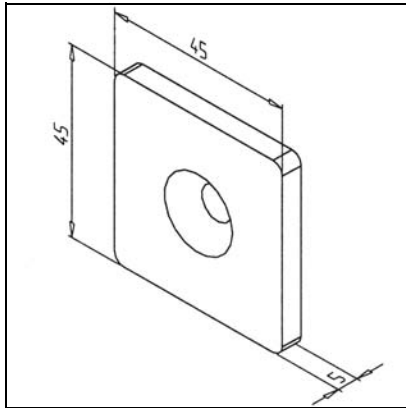
- Power-lock connection for all profiles, also suitable for crossjoints
- Accurate location of the profiles, integrated mounting-aid, movable, low-cost due to minimal procession

ASSEMBLY

- 1) Cut thread M8 into central bore of profile end
- 2) Mount fastener by hand onto profileface
- 3) Tighten setscrew M8 with key 4 A/F
- 4) Recommended locking torque: 12Nm

END CAP 45X45 VA

Part. N° 22.1067/5



TECHN. DATA / DELIVERY CONTENTS

- End cap stainless steel
- Thickness 5 mm
- Without countersunk Screw VA M 8x16

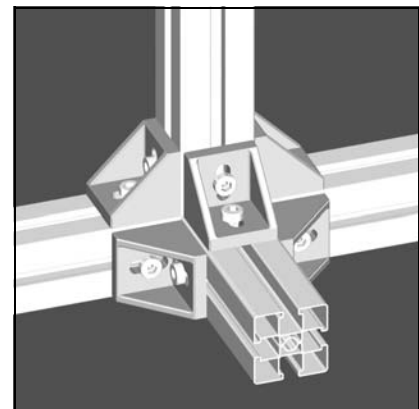
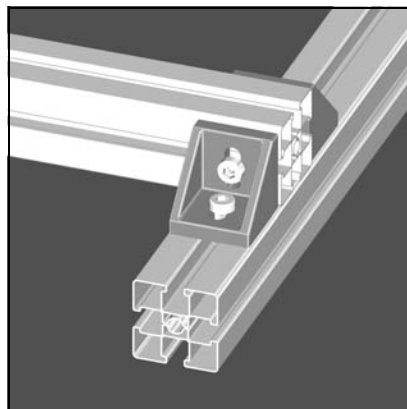
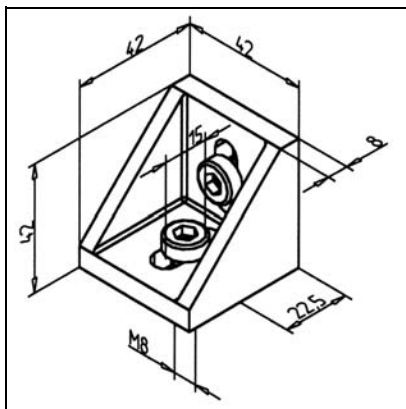
APPLICATIONS

ASSEMBLY

- Screw on end cap with Screw VA M 8x16 A2, stainless steel Part-No. 21.1513/1

ANGLE 45 VA

Part. N° 21.0007/0



TECHN. DATA / DELIVERY CONTENTS

- Material: WN DIN 1.4301 X5 CR NI 18 - 10, SUS 304, stainless steel
- Fixing kit
- Weight 0,072 kg

APPLICATIONS

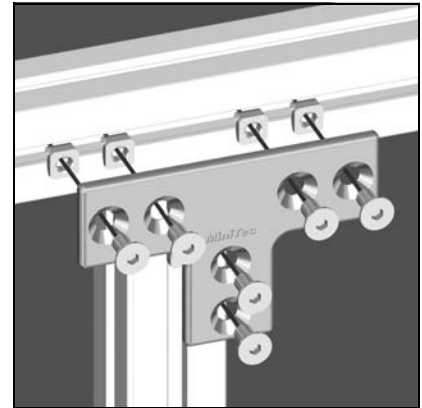
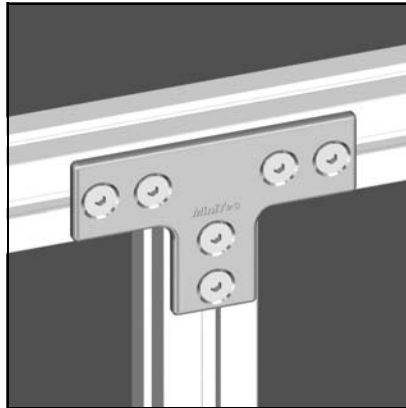
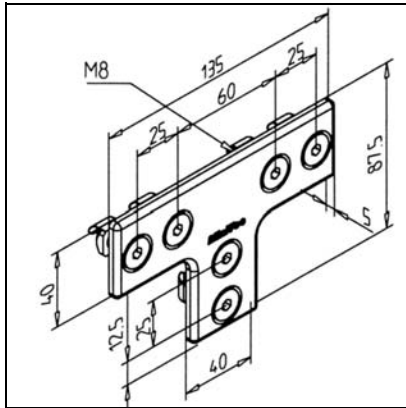
- General constructions, particularly useful for subsequent fitting of profiles into existing constructions
- Fixing of panel elements, table tops
- Strengthening of profile constructions

ASSEMBLY

- Use fixing kit from supply schedule
- For subsequent mounting into vertical profiles use square nut M8 with position-fixing Part N° 21.1351/4
- Hammer head screw Part N° 21.1370/0 can be used
- Recommended locking torque 20 Nm

T-SHEET VA

Part. N° 21.0019/0



TECHN. DATA / DELIVERY CONTENTS

- Sheet stainless steel
- Fixing kit

APPLICATIONS

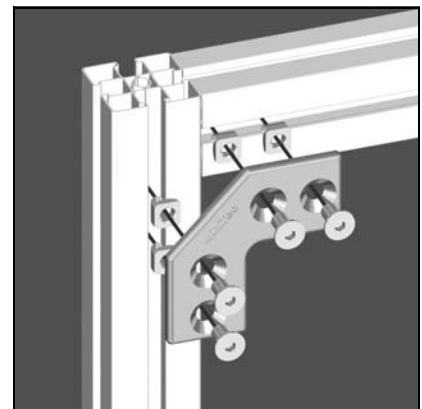
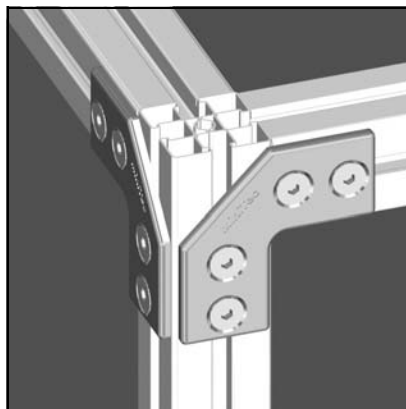
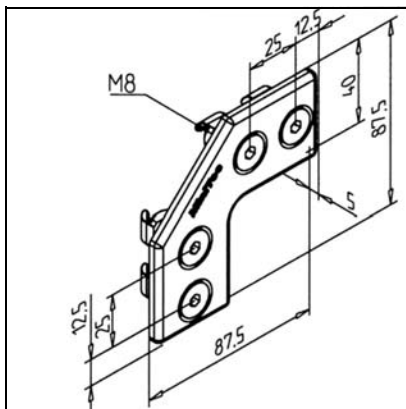
- Strengthening of profile-assemblies

ASSEMBLY

- Use fixing kit from supply schedule
- Use power-lock fasteners if tractive forces appear

ANGLE-SHEET VA

Part. N° 21.0018/0



TECHN. DATA / DELIVERY CONTENTS

- Sheet stainless steel
- Fixing kit

APPLICATIONS

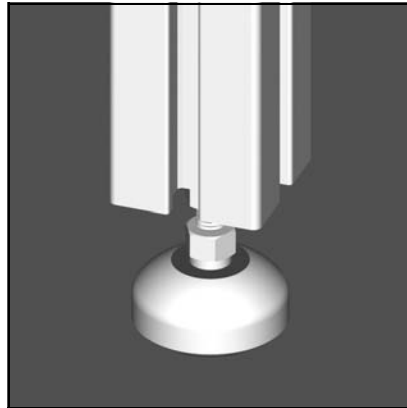
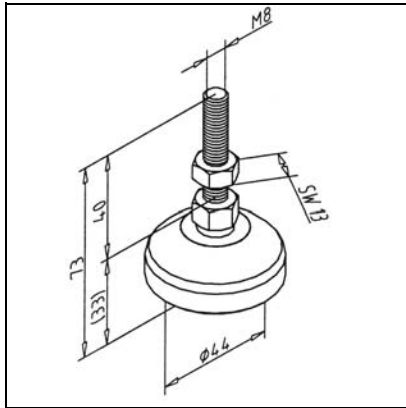
- Strengthening of profile-assemblies
- Also suitable for cross-joints (double application)

ASSEMBLY

- Use fixing kit from supply schedule
- Use power-lock fasteners if tractive forces appear

FOOT VA

Part. N° 21.1865/0



TECHN. DATA / DELIVERY CONTENTS

- Plate: stainless steel
- Threaded bolt: stainless steel
- Locknut: stainless steel
- Anti-skid insert: hard rubber

APPLICATIONS

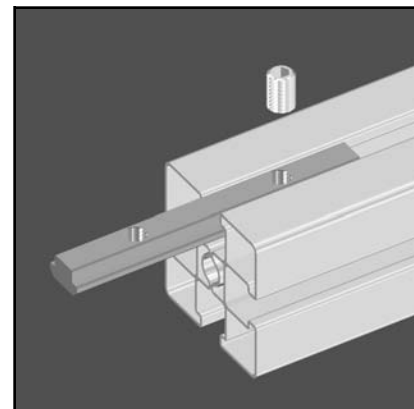
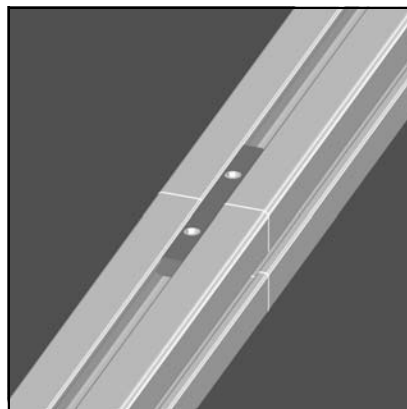
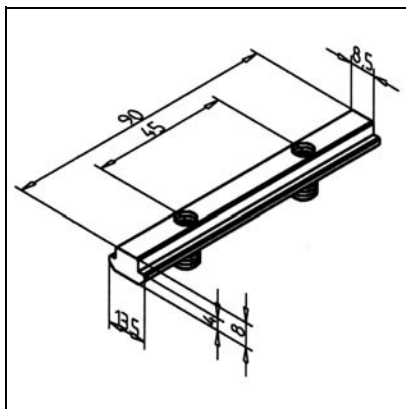
- Levelling of machine bases or constructions
- Guards, tables, show cases
- Conveying systems, workstations

ASSEMBLY

- Directly on core boring of profiles

T-SLOT BAR 90

Part. N° 21.0992/0



TECHN. DATA / DELIVERY CONTENTS

- Material: WN Din 1.4305, stainless steel
- 2 set-screws M8 x 14, 4 A/F, zinc plated
- Weight 0,060 kg

APPLICATIONS

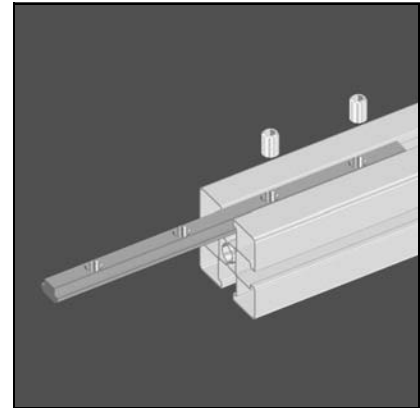
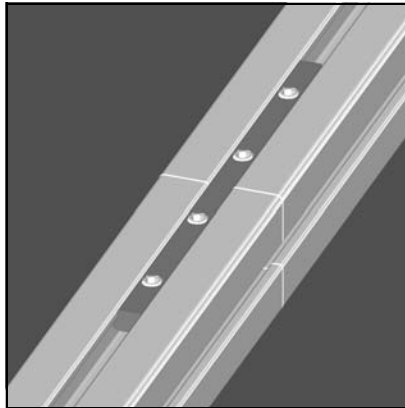
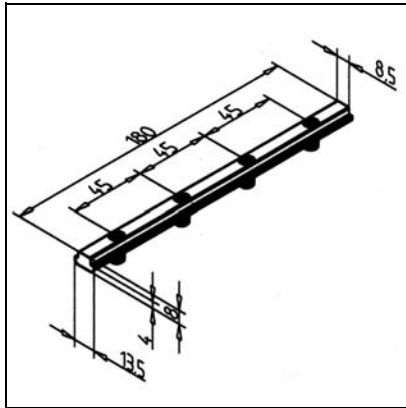
- Profile extension
- Fixing of bearings for linear guides

ASSEMBLY

- Insertion into the profile groove
- Clamp with set-screw
- No processing required
- For larger profiles or heavy - duty applications use multiple t-slot bars

T-SLOT BAR 180

Part. N° 21.0986/0



TECHN. DATA / DELIVERY CONTENTS

- Material: WN Din 1.4305, stainless steel
- 4 set-screws M8 x 14, 4 A/F, zinc plated
- Weight 0,120 kg

APPLICATIONS

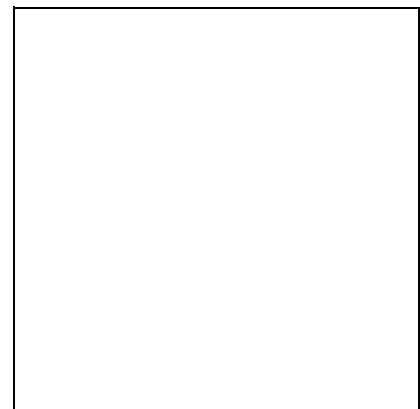
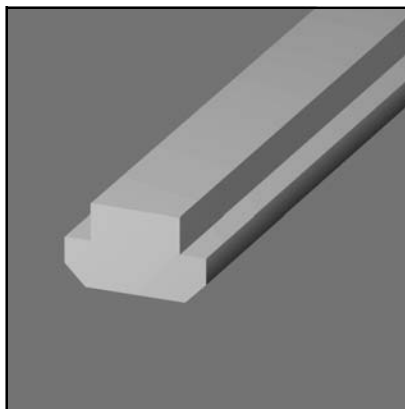
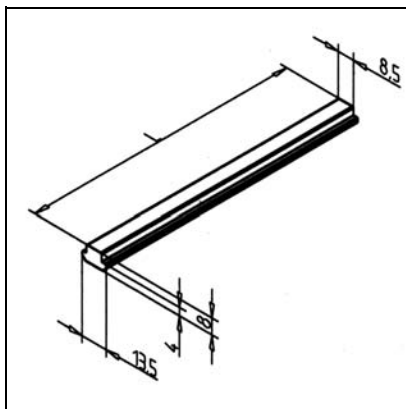
- Face fastening of profiles or ready-for-use elements
- Profile extension
- Fixing of bearings for linear guides

ASSEMBLY

- Insertion into the profile groove
- No processing required
- For larger profiles or heavy - duty applications use multiple t-slot bars

T-SLOT BAR PROFILE

Part. N° 21.1030/1



TECHN. DATA / DELIVERY CONTENTS

- Material: WN Din 1.4305, stainless steel
- Weight 0,680 kg/m
- Length 3 m

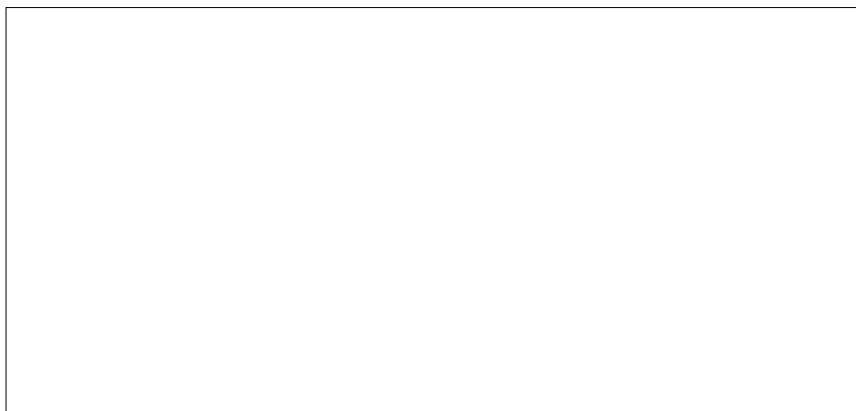
APPLICATIONS

- Production of clamping ledges, connecting elements for special lengths
- Production of reinforcing elements
- Ledges with special perforation

ASSEMBLY

- Insertion into the profile groove

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We will gratefully acknowledge any additions or corrections.