

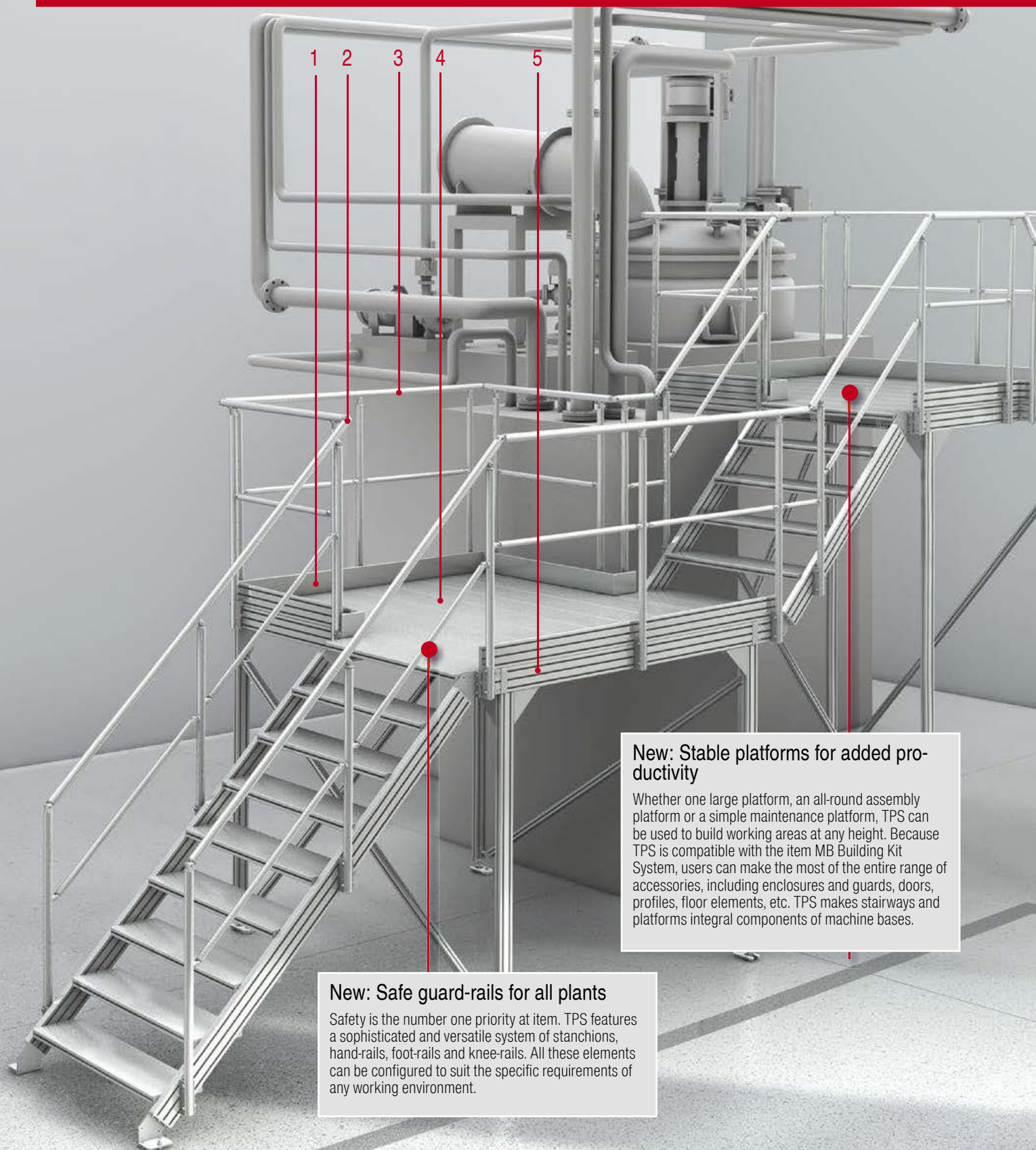


item

TPS – Stairway/Platform System

New Products 2013/ I

TPS – the system



New: Stable platforms for added productivity

Whether one large platform, an all-round assembly platform or a simple maintenance platform, TPS can be used to build working areas at any height. Because TPS is compatible with the item MB Building Kit System, users can make the most of the entire range of accessories, including enclosures and guards, doors, profiles, floor elements, etc. TPS makes stairways and platforms integral components of machine bases.

New: Safe guard-rails for all plants

Safety is the number one priority at item. TPS features a sophisticated and versatile system of stanchions, hand-rails, foot-rails and knee-rails. All these elements can be configured to suit the specific requirements of any working environment.



New: Practical stairways in four different pitches

Every task and every space is different. That's why TPS offers a choice between ease of use and space-saving design. TPS stairways can be built in pitches of 30°, 38°, 45° and 60°. All solutions are individually configured and satisfy the most stringent safety requirements.



1 Safety as standard

TPS components comply with all current standards and the guidelines set out by statutory accident insurance and prevention institutions in Germany. As a result, the system makes it incredibly easy for users to build structures that satisfy all the safety requirements and rules that apply to stairway design.



2 Reduced material consumption

TPS is based on a small number of special and extremely versatile components. This makes it much easier to reuse components. Consistent lightweight construction principles and wide stanchion spacings help to reduce raw material consumption without compromising on safety.



3 Variable guard-rails

TPS enables users to build safe, uninterrupted guard-rails. All connections are flush, so that users can maintain constant contact with the rails. Foot and knee-rails provide added safety for staff on and under the frame.



4 Professional platforms

Whether you need a large working area or an allround gangway, the stable platforms with their ridged floor surfaces offer a sound basis whatever the application. The floor panels can be arranged to form one solid surface or installed with gaps between them.



5 Fully compatible

TPS utilises the Line 8 groove from the MB Building Kit System. All accessories such as enclosures, guards, doors, machine accessories and installation elements can be combined with TPS to produce harmonious structures.



6 Appropriate design

The form a stairway takes is determined by how much space is available, how often it is to be used and how it is to be used. With 30°, 38°, 45° and 60° pitches, TPS has the right model for all requirements.



7 Full width

Steps constructed using TPS can be up to 1200 mm wide. What's more, because the guard-rails are fitted to the outside of the stairway and don't project into it, the full width of each step is always available.



8 Optimised surfaces

TPS enables users to create closed surfaces that keep dirt out. Stanchions, hand-rails and knee-rails reduce the risk of injuries. The highly resistant aluminium profiles are anodized, which gives them long-term protection against scratching and corrosion.



9 Easy assembly

All components are securely screwed to the aluminium profiles. Thanks to versatile fasteners, there is no need for mitre cuts on guard-rails or welded connections. As a result, the stairways can be reconfigured or extended as necessary.



TPS – the new Stairway/Platform System from item

TPS makes it easier than ever to reach every part of a machine and work on various levels. Bridges, maintenance platforms for elevated sections of machinery and allround working platforms can all be built using the same system.

Inspired by the Olympic motto “Faster, Higher, Stronger”, item is bringing a whole new dimension to factory equipment engineering.

Faster: item fastening technology enables users to build stable stairways and systems without the need for additional welded seams or complex mitre cuts. Intelligent, multi-functional fastening technology adapts to suit the relevant requirements so that users don't need to have a specialist module for each individual scenario. All the solutions can also be easily extended at a later point in time.

Higher: Customised stairways enable “access to all areas” with either convenient or space-saving designs. Four pitches are available – 30°, 38°, 45° and 60°. Safe and secure platforms can be used to create an additional working level.

Stronger: Stable guard-rails and numerous integrated safety functions make TPS a reliable partner. The strong construction of the system means that stanchions can be installed at intervals of up to 1200 mm and platforms can cover an area as big as 36 m². The additional use of the Line 8 groove opens up the entire MB Building Kit System as a source of potential add-ons, enabling users to combine working platforms with protective enclosures and doors, for example.



38° – the ergonomic stairway

A pitch of 38° fits perfectly with our natural gait and is therefore the ideal ergonomic solution.



45° – the standard stairway

When it comes to weighing up space needs against an easy climb and the height that is to be reached, designers often opt for stairways with a pitch of 45°.



60° – the space-saving stairway

A stepladder with a 60° pitch has a small footprint and offers users the most direct route to the desired height.



30° – the load-carrying stairway

When a stairway needs to be as easy as possible to climb, shallow steps with a pitch of 30° offer a good solution.



Platforms – working safely at heights

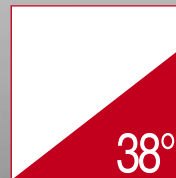
All-round gangways, stable working platforms and ergonomic stairway sections can all be constructed with little effort.



Guard-rails – protection of the highest order

TPS makes building guard-rails easy. The system allows for the integration of safety features such as knee and foot-rails.

The ergonomic stairway



Exceptionally easy to climb

Pitch of 38°



TPS – 38°

For more than 100 years, researchers have examined the way that people climb and descend a stairway. When step length, step height and physical exertion are all taken into account, 38° is the ideal pitch in terms of ergonomics. The angle chimes with our natural gait, which is determined by the lifting motion of the leg combined with the forward tilt of the upper body.

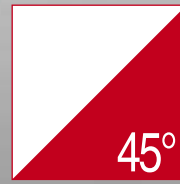
A single flight constructed on this ergonomic principle can reach a maximum height of 3.60 metres when using the recommended maximum number of 18 steps laid down by BGI 561.

TPS uses Profile 8 120x40 light as a universal stringer. The main components in an ergonomic stairway are Stairway Assembly Set GP 38° and two Step Profiles 8 160 that are joined and secured using Step Profile Bracket Set 8 320 to form each tread. Stringers and steps are supplied in the desired sizes. TPS can also be used to build guard-rails and platforms to match the stairway.

The standard stairway

Best use of space

Pitch of 45°



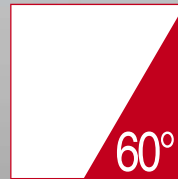
TPS – 45°

A perfect diagonal is the most popular pitch for stairways in industrial facilities, but not just because it looks good. Stairways with a 45° pitch have many benefits in terms of space requirements, reachable height and ease of use. When working with a recommended maximum number of 18 steps, a single flight can span a height of 4 metres.

TPS uses Profile 8 120x40 light as a universal stringer. The main components in a standard stairway are Stairway Assembly Set GP 45°, Step Profile 8 240 and Step Profile Bracket Set 8 240.

Stringers and steps are supplied in the desired sizes. TPS can also be used to build guard-rails and platforms to match the stairway.

The space-saving stairway



No base

Pitch of 60°



TPS – 60°

When there is little floor space available or the stairway is not going to be used often – e.g. for maintenance purposes – a space-saving stepladder is an ideal solution. An angle of 60° takes some effort to climb, but gets you to the necessary height quickly.

A space-saving stairway to DIN ISO 14122 can reach a maximum height of 4.6 metres in a single flight.

TPS uses Profile 8 120x40 light as a universal stringer. The main components in a space-saving stairway are Stairway Assembly Set GP 60°, Step Profile 8 160 and Step Profile Bracket Set 8 160.

Stringers and steps are supplied in the desired sizes. TPS can also be used to build guard-rails and platforms to match the stairway.

The load-carrying stairway

Minimum effort

Pitch of 30°

30°



TPS – 30°

If a stairway is in frequent use or is to be used to transport consumables or other loads, operators find a flat pitch angle easiest to climb. Users don't have to lift their legs as high, which relieves some strain, although they have to walk a longer distance than when using stairways with a steeper pitch.

A load-carrying stairway can reach a maximum height of 3.2 metres in a single flight. This is due to a combination of the flat pitch and recommended maximum of 18 steps per flight stipulated in BGI 561.

TPS uses Profile 8 120x40 light as a universal stringer. The main components in a load-carrying stairway are Stairway Assembly Set GP 30° and two Step Profiles 8 160 that are joined and secured using Step Profile Bracket Set 8 320 to form each tread.

Stringers and steps are supplied in the desired sizes. TPS can also be used to build guard-rails and platforms to match the stairway.



Safe stairways with TPS

All stairways represent a certain safety risk – put one foot wrong and you can easily fall. This risk can be mitigated, but not completely eliminated. The consequences of a fall can also be mitigated. In the 1970s, statutory accident insurance and prevention institutions in Germany recorded 60,000 accidents on stairways. Some 2,000 of these accidents resulted in permanent injuries and around 40 people died. Today, thanks to improved safety guidelines, only 44,000 accidents on stairways are reported, some 900 of which result in permanent injuries. There are also fewer than 10 accidents resulting in deaths each year.

These reductions are a direct result of improved safety standards and TPS makes it easy to comply with and even exceed requirements. For example, the

recommended foot-rails are 20 mm higher than the requirements set out in DIN ISO 14122, meaning they offer better protection against falling objects. The ergonomic 38° stairway that can be built using TPS provides an easy-climb alternative to the standard 45° stairway. Biometric studies have shown that the combination of somewhat flatter pitch and larger tread depth make the stairway easier to climb. These dimensions are in harmony with our natural gait.

Whether guard-rails, knee-rails or tread depths – all TPS components are designed to make it much easier to build standard-compliant stairways and offer your staff the best protection possible. The table below contains an overview of the relevant guidelines, standards and recommendations. item will be happy to offer you advice for the design of your customised stairway!

Applicable standards and regulations

Standard	Designation	Contents
DIN EN ISO 14122 - 2	Permanent means of access to machinery - Part 2: Working platforms and walkways	Scope. Normative references. Terms and definitions. General requirements. Assembly instructions
DIN EN ISO 14122 - 3	Permanent means of access to machinery - Part 3: Stairs, stepladders and guard-rails	Scope. Normative references. Terms and definitions. General safety requirements concerning materials and dimensions. Safety requirements applicable to stairs, step ladders and guide-rails. Verification of safety requirements. Assembly instructions
DIN 51130	Testing of floor coverings Determination of the anti-slip property Workrooms and fields of activities with slip danger, walking method - Ramp test	Scope. Normative references. Terms and definitions. Brief description of procedure. Testing anti-slip properties. Measurement of drainage capacity. Test report.
ASR 17/ 1.2	Traffic routes	Terms and definitions. Composition and dimensions of traffic routes, not including stairways. Composition and dimensions of stairways. Level-equalising steps on traffic routes. Signage for hazard points on traffic routes. Protection for workplaces adjacent to traffic routes.
BGI 561	Stairways	Terms and definitions. Hazards and accidents. Protective measures – basic principles. Stairways – special designs. Implications for stairway usage and maintenance.
BGR 181	Floor surfaces in working rooms and areas where there is a slip hazard	Scope. Anti-slip floor surfaces and evaluation of slip danger. Anti-slip floor coverings. Further building requirements for floor surfaces. Further operational requirements for floor surfaces.



Easier than ever – platforms built with TPS

The highest standard

Platforms built using TPS provide an elevated working platform or a landing between the different flights of a stairway. TPS makes building work exceptionally straightforward because all the application areas are assembled using the same basic components and principles.

This is made possible by TPS Step Profiles 8 and the specially developed Frame Profile 8 120x40 light. The latter accommodates both Step Profiles (160 or 240 mm widths) in any sequence and holds them securely in place. The steps locate in the specially shaped Frame Profile and are also fixed to the profile via a screw connection. Glide Tape prevents direct contact with the aluminium profiles, thereby keeping noise levels low in quiet working environments.

Measuring up to 6000 mm in length, the ridged Step Profiles are used as both steps and as long floor panels in platforms. As a result, several Step Profiles can be installed in parallel to form a spacious working platform measuring up to 36 m² in area. Alternatively, Frame Profiles can be connected together via their end faces to build raised working platforms in any length.

TPS enables users to build platforms in depths starting from 240 mm right up to a maximum total depth of 6080 mm, in increments of 80 mm. As per DIN EN ISO 14122, it also recommends that platforms should be at least 600 mm wide.



Unbroken surface

Due to the high-precision manufacturing techniques employed, the frame and panels fit flush, resulting in an unbroken surface. Alternatively, users can create gaps in their platform surfaces if efficient drainage is required. The ridged Step Profiles can be fastened together using either the TPS Step Spacer Profile or Platform Cleats. The latter create a 10 mm gap between the panels and can also be fitted from above, while the Step Spacer Profile is screwed into place from below.



Safe guard-rails

The TPS guard-rail system is the perfect complement to the platform system. It can be used to build continuous, safe guard-rails that incorporate all requirements such as foot and knee-rails. The guard-rail system also makes sure there are no troublesome gaps between the hand-rail on the stairway and the hand-rail on the platform. None of the component parts in the guard-rail protrude into the usable area of the platform or stairway, thus making sure that the full working space that has been designed is preserved.



Unlimited possibilities

Frame Profile 8 120x40, which is used to build platforms, features the Line 8 groove and is therefore compatible with the item MB Building Kit System. As a result, all the accessories in the MB Building Kit System can be attached to it in addition to the TPS guard-rail system. Building full working platforms with enclosures, guards, doors and integrated work stations couldn't be easier. When using TPS, stairways and platforms become integral components in one and the same machine base.



Safety and convenience – guard-rails with TPS

Five fasteners for all requirements

Putting together a guard-rail for a stairway or platform can require some very specialist expertise. It isn't just a case of taking into account different angles – even the way a stairway joins to a platform can influence the design of a guard-rail.

For that reason, guard-rail systems often comprise a huge range of varied fasteners. That's not the case with TPS. Five fasteners are all it takes to cover all requirements. They link stanchions with stairways or platforms, connect to hand-rails and provide a secure hold for knee-rails. That makes a designer's job much easier. Instead of having to find a separate component for each job, users can work with the very clear principles of TPS to design efficient guard-rails. If the construction has to be modified at a later point in time, the existing components can be reused very easily. What's more, far fewer individual parts need to be held in stock.

Guard-rails built using TPS are cylindrical, clean and safe. Stanchions and hand-rails are made from Profiles 8 D40 with one or two grooves that can be sealed to form clean, closed cylindrical surfaces, thereby giving dirt no place to hide and minimising injury hazards. Slimline Profile 6 D30 4N is used to form knee-rails.

TPS is geared up for the construction of mandatory safety features such as knee and foot-rails. As a result, users have no trouble complying with – and even exceeding – stipulations laid down by the ISO and statutory accident insurance and prevention institutions in Germany. For example, foot-rails made from Profile 8 120x16 E are 20 mm higher than the specifications set out in DIN EN ISO 14122.



Practical stanchions

Stanchions largely determine the stability and functionality of a guard-rail and sometimes have to withstand fairly high loading moments. That's why TPS uses the sturdy cylindrical Profile 8 D40 2N180, which has a diameter of 40 mm. The profile features two grooves located along the direction of travel and a closed surface on the inside and outside of the stairway.

The TPS Stanchion Base Socket has several jobs. Firstly, it connects stanchions in various angles to the stringer on a stairway or the profile on a platform. Regardless of whether a stairway has a pitch of 30°, 38°, 45° or 60°, or a stanchion is to be fitted at a right angle to a platform, the same Stanchion Base Socket is always used. Secondly, the Socket is used to fasten a foot-rail in place.

The Stanchion Base Socket ensures that the moment resulting from the stanchion lengths stipulated in the guidelines is optimally transferred to the platform. Consequently, profile deflection is virtually nil. Thanks to the sturdy design solution, stanchions can be installed at intervals of up to 1200 mm.

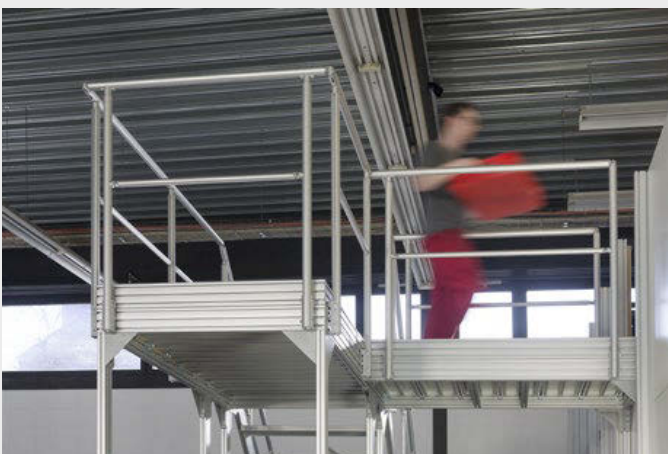


Helping hand-rail

A hand-rail is the primary means of preventing a fall and a useful aid when climbing stairways. As a result, it has to be both stable and ergonomic. TPS uses the cylindrical Profile 8 D40 3N. Measuring 40 mm in diameter, the hand-rail features one groove on the underside and is supplied with a cover that safely seals the groove after installation to protect users' fingers.

The hand-rail is connected to the Stanchion Angle Fastener. This fastener creates a durable and stable connection while its integrated joint also means that hand-rails can be installed at any angle.

The TPS Hand-Rail Joint is similarly versatile. It connects Profiles 8 D40 at any angle via their end faces, thus ensuring that direct transitions can be made between stairway and platform guard-rails and at the corners of guard-rails. The absence of any gaps boosts both the stability and safety of guard-rails.



Safety as standard

Safe guard-rails need a knee-rail to stop users falling through the gap under the hand-rail. TPS uses Profile 6 D30 as a weight-optimised barrier for this application. The Knee-Rail Angle Fastener, which is screw-attached to the end face of a knee-rail and the groove on a stanchion, holds knee-rails securely in place. The integrated joint in the fastener also means knee-rails can be built to match any stairway pitch or installed horizontally on a platform.

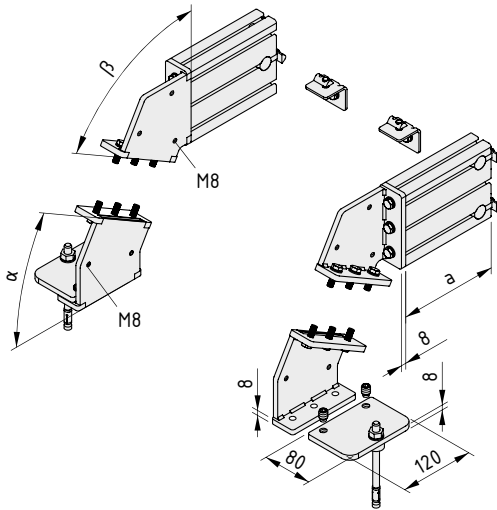
Platforms also need a foot-rail to stop objects falling off and to reduce the gap between the knee-rail and the platform. TPS uses Profile 8 120x16 E – screwed to the Stanchion Base Socket – for this purpose. As a result, TPS foot-rails are higher than the 100 mm stipulated in DIN EN ISO 14122, thereby reducing the gap between knee and foot-rail even further.

The stairway



TPS incorporates various Assembly Sets for a range of stairway pitches and installation scenarios. Stairway Assembly Sets GP contain all the fastening elements needed to secure a stairway to the ground and to the next level up. Stairway Assembly Sets PP, on the other hand, are used when building a connecting stairway between the end of a stairway landing and a platform or similar element.

Profile 8 120x40 light is recommended for use as a stringer on all types of stairway.



Stairway Assembly Set GP 30°

- 2 step angle brackets 30°, St, powder-coated RAL 9006 white aluminium
- 2 step angle brackets 60°, St, powder-coated RAL 9006 white aluminium
- 2 Profiles 120x40 light 160 mm, Al, anodized
- 2 Angle Brackets 8 40x40x40, St, bright zinc-plated
- 2 floor fastening plates, St, powder-coated RAL 9006 white aluminium
- 2 Floor-Fastening Sets M10x125, St, bright zinc-plated
- 6 Universal-Fastening Sets 8, St
- 18 hexagon screws ISO 4017-M8x25, St, bright zinc-plated
- 18 washers ISO 7089-8-200, St, bright zinc-plated

a = 160 mm α = 30° β = 60° m = 8.4 kg

1 set

0.0.652.18

Stairway Assembly Set GP 38°

- 2 step angle brackets 38°, St, powder-coated RAL 9006 white aluminium
- 2 step angle brackets 52°, St, powder-coated RAL 9006 white aluminium
- 2 Profiles 120x40 light 160 mm, Al, anodized
- 2 Angle Brackets 8 40x40x40, St, bright zinc-plated
- 2 floor fastening plates, St, powder-coated RAL 9006 white aluminium
- 2 Floor-Fastening Sets M10x125, St, bright zinc-plated
- 6 Universal-Fastening Sets 8, St
- 18 hexagon screws ISO 4017-M8x25, St, bright zinc-plated
- 18 washers ISO 7089-8-200, St, bright zinc-plated

a = 160 mm α = 38° β = 52° m = 8.7 kg

1 set

0.0.652.32

Stairway Assembly Set GP 45°

- 4 step angle brackets 45°, St, powder-coated RAL 9006 white aluminium
- 2 Profiles 120x40 light 120 mm, Al, anodized
- 2 Angle Brackets 8 40x40x40, St, bright zinc-plated
- 2 floor fastening plates, St, powder-coated RAL 9006 white aluminium
- 2 Floor-Fastening Sets M10x125, St, bright zinc-plated
- 6 Universal-Fastening Sets 8, St
- 18 hexagon screws ISO 4017-M8x25, St, bright zinc-plated
- 18 washers ISO 7089-8-200, St, bright zinc-plated

a = 120 mm α = 45° β = 45° m = 8.3 kg

1 set

0.0.653.12

Stairway Assembly Set GP 60°

2 step angle brackets 60°, St, powder-coated RAL 9006 white aluminium
 2 step angle brackets 30°, St, powder-coated RAL 9006 white aluminium
 2 Profiles 120x40 light 160 mm, Al, anodized
 2 Angle Brackets 8 40x40x40, St, bright zinc-plated
 2 floor fastening plates, St, powder-coated RAL 9006 white aluminium
 2 Floor-Fastening Sets M10x125, St, bright zinc-plated
 6 Universal-Fastening Sets 8, St
 18 hexagon screws ISO 4017-M8x25, St, bright zinc-plated
 18 washers ISO 7089-8-200, St, bright zinc-plated
 a = 160 mm $\alpha = 60^\circ$ $\beta = 30^\circ$ m = 8.4 kg

1 set 0.0.653.13

Stairway Assembly Set PP 30°

4 step angle brackets 30°, St, powder-coated RAL 9006 white aluminium
 4 Profiles 120x40 light 160 mm, Al, anodized
 4 Angle Brackets 8 40x40x40, St, bright zinc-plated
 12 Universal-Fastening Sets 8, St
 24 hexagon screws ISO 4017-M8x25, St, bright zinc-plated
 24 washers ISO 7089-8-200, St, bright zinc-plated
 a = 160 mm b = 160 mm $\alpha = 30^\circ$ $\beta = 30^\circ$ m = 9.1 kg

1 set 0.0.653.14

Stairway Assembly Set PP 38°

4 step angle brackets 38°, St, powder-coated RAL 9006 white aluminium
 4 Profiles 120x40 light 160 mm, Al, anodized
 4 Angle Brackets 8 40x40x40, St, bright zinc-plated
 12 Universal-Fastening Sets 8, St
 24 hexagon screws ISO 4017-M8x25, St, bright zinc-plated
 24 washers ISO 7089-8-200, St, bright zinc-plated
 a = 160 mm b = 160 mm $\alpha = 38^\circ$ $\beta = 38^\circ$ m = 9.3 kg

1 set 0.0.653.15

Stairway Assembly Set PP 45°

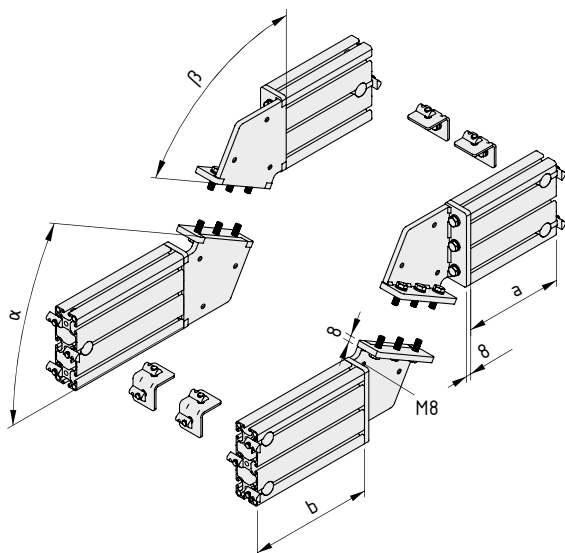
4 step angle brackets 45°, St, powder-coated RAL 9006 white aluminium
 2 Profiles 120x40 light 120 mm, Al, anodized
 2 Profiles 120x40 light 160 mm, Al, anodized
 4 Angle Brackets 8 40x40x40, St, bright zinc-plated
 12 Universal-Fastening Sets 8, St
 24 hexagon screws ISO 4017-M8x25, St, bright zinc-plated
 24 washers ISO 7089-8-200, St, bright zinc-plated
 a = 120 mm b = 160 mm $\alpha = 45^\circ$ $\beta = 45^\circ$ m = 8.9 kg

1 set 0.0.653.16

Stairway Assembly Set PP 60°

4 step angle brackets 60°, St, powder-coated RAL 9006 white aluminium
 2 Profiles 120x40 light 160 mm, Al, anodized
 2 Profiles 120x40 light 200 mm, Al, anodized
 4 Angle Brackets 8 40x40x40, St, bright zinc-plated
 12 Universal-Fastening Sets 8, St
 24 hexagon screws ISO 4017-M8x25, St, bright zinc-plated
 24 washers ISO 7089-8-200, St, bright zinc-plated
 a = 160 mm b = 200 mm $\alpha = 60^\circ$ $\beta = 60^\circ$ m = 9.4 kg

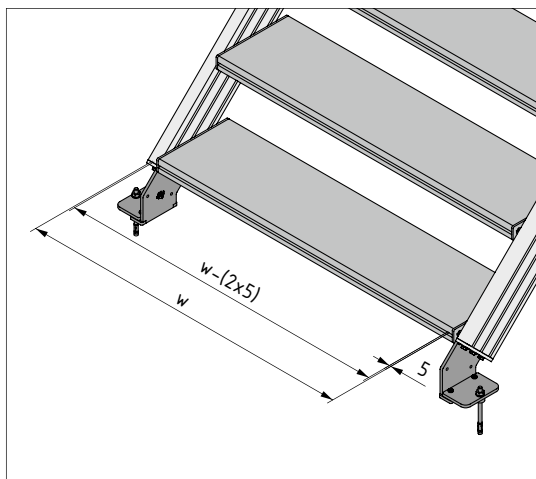
1 set 0.0.653.17



Profile 8 120x40 light



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
16.12	4.35	24.22	220.54	18.44	12.11	36.76
natural, cut-off max. 6000 mm						0.0.416.66
natural, 1 pce., length 6000 mm						0.0.453.13

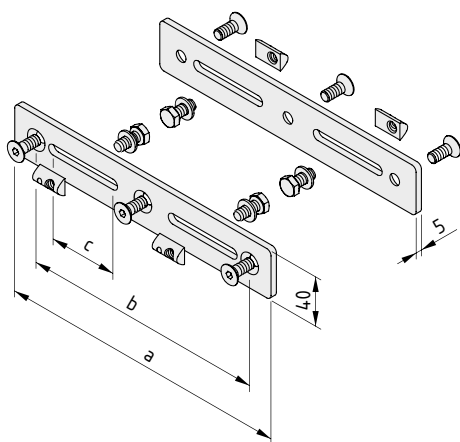


The depth of a step is determined by the Step Profile that is used. In the case of stairways with pitches of 30° or 38°, two Step Profiles 8 160 should be connected together using Step Profile Bracket Set 8 320. Step Profile 8 240 is ideal for 45° stairways. TPS enables users to build steps up to 1200 mm wide. The two 5 mm-wide fastening brackets must be taken into account when calculating the overall width.

Step Profiles are also ridged for added grip safety. The self-adhesive Anti-Slip Tape has a slip rating of R13 and further boosts the safety of steps and platforms. item will be happy to offer you advice for the configuration of your customised stairway.

We recommend that Anti-Slip Hazard Warning Tape SA (yellow & black stripes) is applied in areas where there is a fall or trip hazard. Anti-Slip Tape can be applied easily using Lip Seal Assembly Tool 6-12.

The tape should be cut to length according to tread width w of the Step Profile.



Step Profile Bracket Set 8 160



2 step profile flat brackets 160, St, powder-coated RAL 9006 white aluminium
4 T-Slot Nuts 8 St M8, St, bright zinc-plated
4 Countersunk Screws DIN 7991-M8x20, St, bright zinc-plated
4 washers ISO 7089-8-200, St, bright zinc-plated
4 hexagon screws ISO 4017-M8x18, St, bright zinc-plated
 $a = 160 \text{ mm}$ $b = 120 \text{ mm}$ $c = 36 \text{ mm}$ $m = 552.0 \text{ g}$

1 set

0.0.647.13

Step Profile Bracket Set 8 240



2 step profile flat brackets 240, St, powder-coated RAL 9006 white aluminium
4 T-Slot Nuts 8 St M8, St, bright zinc-plated
6 Countersunk Screws DIN 7991-M8x20, St, bright zinc-plated
4 washers ISO 7089-8-200, St, bright zinc-plated
4 hexagon screws ISO 4017-M8x18, St, bright zinc-plated
 $a = 240 \text{ mm}$ $b = 200 \text{ mm}$ $c = 56 \text{ mm}$ $m = 782.0 \text{ g}$

1 set

0.0.647.15

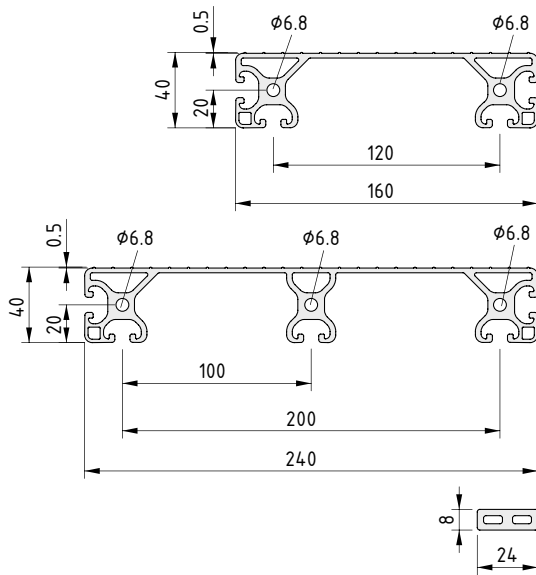
Step Profile Bracket Set 8 320



2 step profile flat brackets 320, St, powder-coated RAL 9006 white aluminium
4 T-Slot Nuts 8 St M8, St, bright zinc-plated
8 Countersunk Screws DIN 7991-M8x20, St, bright zinc-plated
4 washers ISO 7089-8-200, St, bright zinc-plated
4 hexagon screws ISO 4017-M8x18, St, bright zinc-plated
 $a = 320 \text{ mm}$ $b = 280 \text{ mm}$ $c = 80 \text{ mm}$ $m = 1.0 \text{ kg}$

1 set

0.0.647.14



Step Profile 8 160



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
13.35	3.60	22.18	469.67	5.32	9.32	58.69
natural, cut-off max. 6000 mm						0.0.650.14
natural, 1 pce., length 6000 mm						0.0.649.97

Step Profile 8 240



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
19.06	5.14	31.75	1,297.03	7.66	13.18	108.09
natural, cut-off max. 6000 mm						0.0.650.15
natural, 1 pce., length 6000 mm						0.0.650.07

Step Spacer Profile 24x8

PE-HD

m = 0.14 kg/m

cut-off max. 3000 mm

1 pce., length 3000 mm

0.0.650.76

0.0.650.75

Anti-Slip Tape SA, black

Substrate: PE

Total thickness 1 mm

Slip rating R13 DIN 51130 (complies with specifications in BGR 181)

m = 57 g/m

1 roll, length 6 m

0.0.651.00

Anti-Slip Hazard Warning Tape SA

Substrate: PE

Total thickness 1 mm

Slip rating R13 DIN 51130 (complies with specifications in BGR 181)

m = 43 g/m

1 roll, length 6 m

0.0.651.01

Lip Seal Assembly Tool 6-12

Roller, PA

Bolt, St

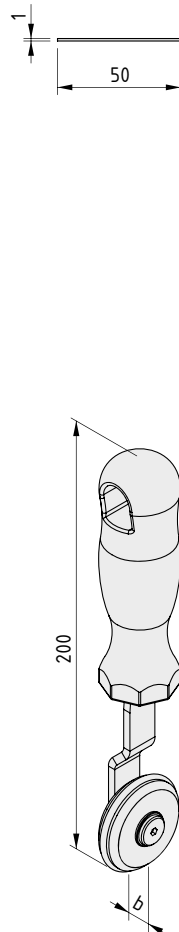
Button-Head Screw ISO 7380-M5x10

Handle, PA

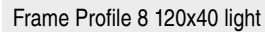
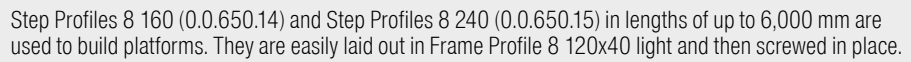
b = 8 mm m = 81.0 g

1 pce.

0.0.493.28



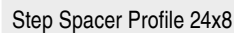
The platform



natural, cut-off max. 6000 mm



Glide Tape should be applied between panels and the frame to prevent the noise caused by friction.

0.0.653.09

PE-HD
m = 0.14 kg/m

0.0.650.76

0.0.650.75



2 platform cleat top sections, St, bright zinc-plated
2 platform cleat bottom sections, St, bright zinc-plated
2 compression springs, St, bright zinc-plated
2 Button-Head Screws ISO 7380-M6x45, St, bright zinc-plated
m = 118.0 g

0.0.651.74

Glide Tape 15x0.15 SA

PE-UHMW
m = 3.5 g/m

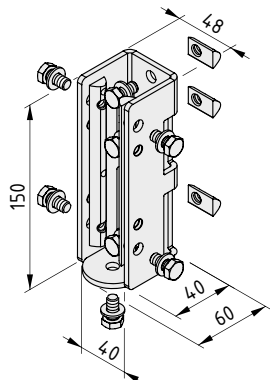
0.0.655.29

0.0.655.28

The guard-rail



TPS uses stable Profile 8 D40 2N180 as guard-rail stanchions, which are anchored into the Stanchion Base Socket. This configuration is suitable for all stairway pitches. The Stanchion Base Socket also acts as a fastener for Profile 8 120x16 E, which functions as a foot-rail and stops objects dropping off the platform.



Stanchion Base Socket

Stanchion socket, St, white aluminium similar to RAL 9006
3 T-Slot Nuts 8 St M8, St, bright zinc-plated
2 special T-Slot Nuts 8 St 2xM8-130 M8, St, bright zinc-plated
8 washers DIN 125-8, St, bright zinc-plated
8 hexagon screws ISO 4017-M8x16, St, bright zinc-plated
m = 813.0 g

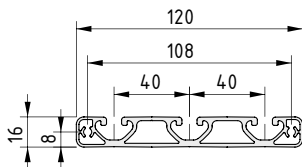
1 set	0.0.651.44
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Profile 8 D40 2N180



Profile features easy-to-open groove(s)

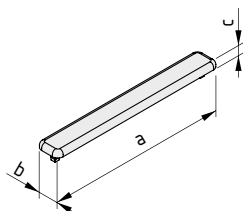
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
5.58	1.50	6.13	5.63	3.16	3.07	2.92
natural, cut-off max. 6000 mm						0.0.493.42
natural, 1 pce., length 6000 mm						0.0.493.43



Profile 8 120x16 E



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
6.97	1.89	2.31	87.54	2.69	2.77	14.59
natural, cut-off max. 6000 mm						0.0.650.86
natural, 1 pce., length 6000 mm						0.0.650.85

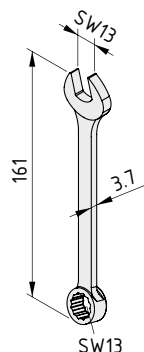


Cap 8 120x16



PA-GF
a = 120 mm b = 16 mm c = 4 mm m = 6.0 g
grey similar to RAL 7042, 1 pce.

	0.0.650.87
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Combination Spanner 13 A/F

Chrome vanadium steel, matt chrome-plated
m = 55.0 g

1 pce.	0.0.654.72
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The Stanchion Fasteners (for platforms) and Stanchion Angle Fasteners (for stairways) produce a secure connection between the hand-rail (Profile 8 D40 3N) and stanchions.

All open grooves and ends can be closed using Cover Profile 8 and the Hand Rail Cap.
 item will be happy to offer you advice for the configuration of your customised stairway.

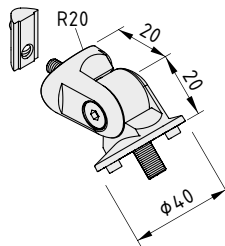


Profile 8 D40 3N



Profile features easy-to-open groove(s)

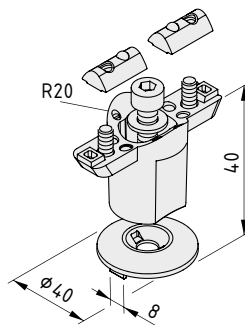
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
5.64	1.53	5.88	6.13	4.82	2.97	3.07
natural, cut-off max. 6000 mm						0.0.493.45
natural, 1 pce., length 6000 mm						0.0.493.46



Stanchion Angle Fastener

Joint element D40, die-cast Al, white aluminium similar to RAL 9006
 Joint element D30-R20, die-cast Al, white aluminium similar to RAL 9006
 Joint element spacer, St, white aluminium similar to RAL 9006
 T-Slot Nut V 8 St M6, St, bright zinc-plated
 2 Countersunk Screws DIN 7991 M6x10, St, bright zinc-plated
 Countersunk Screw DIN 7991-M6x18, St, bright zinc-plated
 Special Countersunk Screw DIN 7991-M8x20, St, bright zinc-plated
 m = 110.0 g

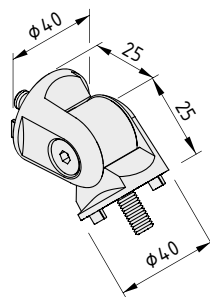
1 set	0.0.620.24
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Stanchion Fastener

Stanchion Fastener, die-cast Al, white aluminium similar to RAL 9006
 Hand Rail Cap, die-cast Al, white aluminium similar to RAL 9006
 Hexagon Socket Head Cap Screw DIN 912-M8x25, St, bright zinc-plated
 Washer ISO 7089-8, St, bright zinc-plated
 2 T-Slot Nuts V 8 St M6, St, bright zinc-plated
 2 Countersunk Screws DIN 7991-M6x16, St, bright zinc-plated
 m = 108.0 g

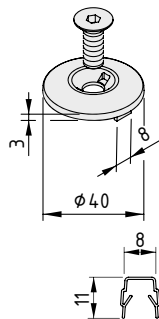
1 set	0.0.620.22
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Hand-Rail Joint

2 joint elements D40, die-cast Al, white aluminium similar to RAL 9006
 Joint element spacer, St, white aluminium similar to RAL 9006
 2 Countersunk Screws DIN 7991-M8x14, St, bright zinc-plated
 2 Countersunk Screws DIN 7991-M8x25, St, bright zinc-plated
 m = 197.0 g

1 pce.	0.0.620.23
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Hand-Rail Cap

Hand-Rail Cap, die-cast Al, white aluminium similar to RAL 9006
 Countersunk Screw DIN 7991-M8x22, St, bright zinc-plated
 m = 20.0 g

1 set	0.0.620.19
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Cover Profile 8



PP/TPE
 m = 26 g/m

natural, 1 pce., length 2000 mm	0.0.422.23
grey similar to RAL 7042, 1 pce., length 2000 mm	0.0.489.45



Knee-rails are best constructed using Profiles 6 D30 4N. The Knee-Rail Angle Fastener connects knee-rails to guard-rail stanchions.

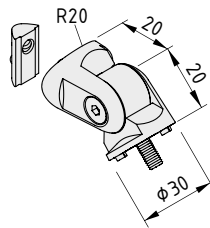


Profile 6 D30 4N



Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	W _x [cm ³]	W _y [cm ³]
2.98	0.80	1.89	1.89	1.26	1.26
natural, cut-off max. 6000 mm					0.0.616.49
natural, 1 pce., length 6000 mm					0.0.616.48



Knee-Rail Angle Fastener

Joint element D30, die-cast Al, white aluminium similar to RAL 9006
 Joint element D30-R20, die-cast Al, white aluminium similar to RAL 9006
 Joint element spacer, St, white aluminium similar to RAL 9006
 T-Slot Nut V 8 St M6, St, bright zinc-plated
 2 Countersunk Screws DIN 7991 M6x18, St, bright zinc-plated
 2 Countersunk Screws DIN 2-M6x10, St, bright zinc-plated
 m = 102.0 g

1 set	0.0.620.28
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Alphabetical Register

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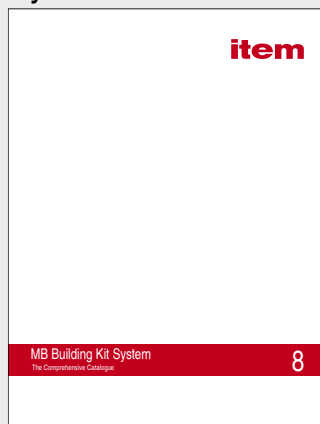
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