item

Mitre-Fastening Sets 8
Drilling Jigs Mitre Connection 8
Notes on Use and Installation

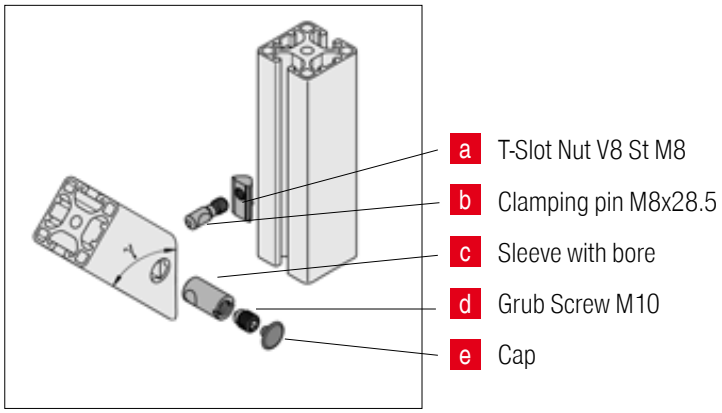
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Mitre-Fastening Set 8

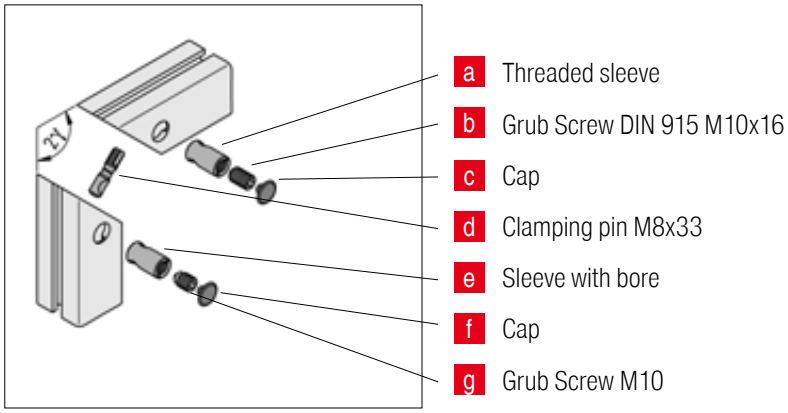
Mitre-Fastening Set 8 is available for use with two different kinds of profile joints:

A Profile 8 with a mitre cut (any angle γ between 30° and 90°) is screwed to the side of a Profile 8.



Mitre Butt-Fastening Set 8

For joining two profiles with ends cut to form a mitre joint (both profiles must be cut at the same angle γ between 30° and 90°). This results in an angle between the Profiles (2 γ) of 60° to 180°.

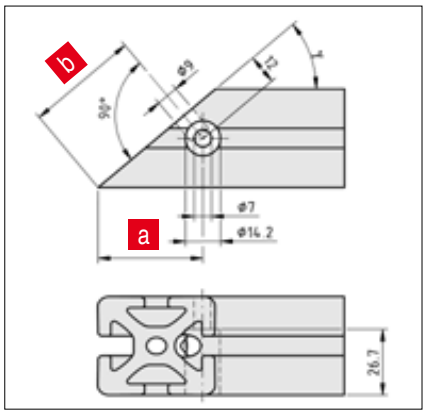


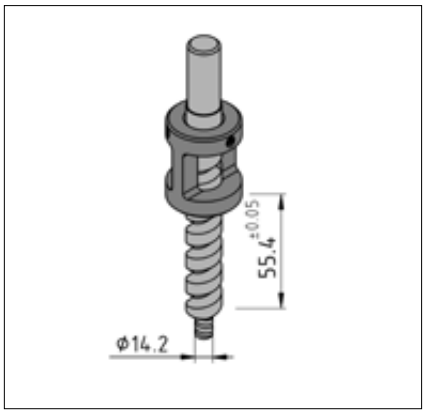
Machining

Cutting the profiles

With a simple mitre joint, angle γ is also the angle of the final construction after assembly. With the Mitre Butt-Fastener, two Profiles are cut at the same angle γ. This results in an angle equivalent to 2 γ in the final construction. The cut profiles are then drilled.

Drilling the profiles





Distances a and b can also be calculated as a function of angle γ:

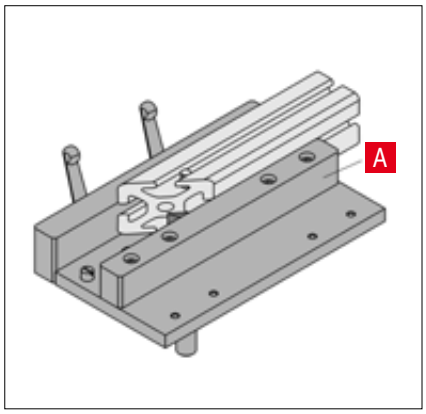
$$a = \frac{12 + 20 \cos \gamma}{\sin \gamma}$$

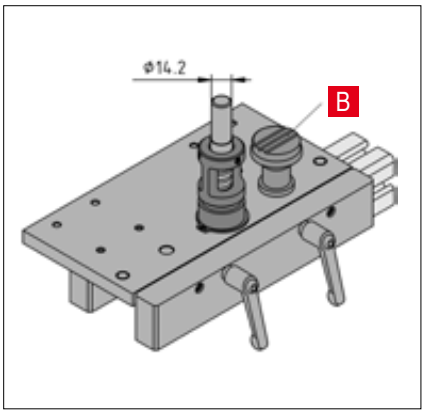
$$b = \frac{20 + 12 \cos \gamma}{\sin \gamma}$$

1st hole ∅ 14.2 mm:

The holes drilled in the sides of the profiles are for positioning the sleeves in the profile. To this end, attach the Drilling Jig Mitre Connection 8 D14.2 to the cut profile and clamp it in place to determine the correct position for the hole. The Drilling Jig is supplied with a limit-stop which has to be attached to the Step Drill (0.0.462.60) using two grub screws. The drilling depth in the profile must be set to exactly 26.7 mm.

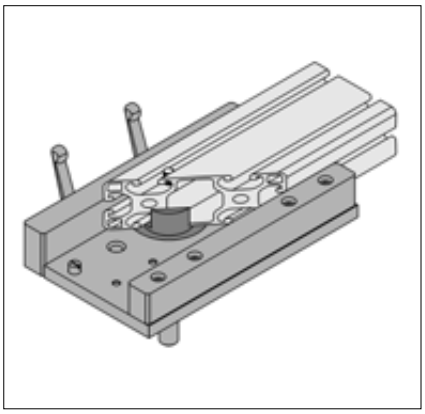
Profiles 8 with external dimensions 40 x 40 mm are placed up against the rotating stop in the Drilling Jig and this stop will adjust itself to match the angle of the cut edge. The profile is clamped against the stop rail A and secured by the clamp screw B to the groove. To fix profiles with closed grooves to the jig the headless screw and the clamp screw B have to be removed.

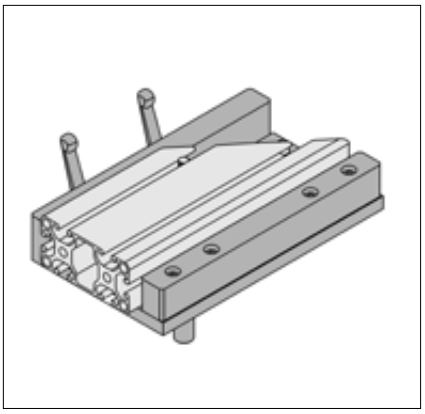




For Line 8 Profiles with a width of 80 mm the stop rail of the jig must be fixed to the outer position.

If this Profile of 80 mm requires two Mitre Fastening Sets the profile has to be turned for the second hole so that both holes are drilled from the same side of the profile.





The rotating stop has to be rotated around the drill axis to enable the second hole to be drilled.

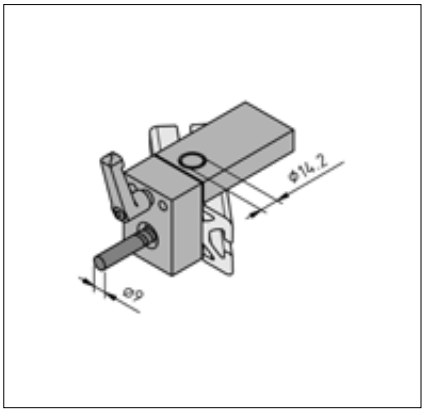
2nd hole ∅ 9 mm:

The hole in the end-face, which is perpendicular to the cut edge of the profile (as a through hole for the Tightening Bolt), is drilled with the aid of the Drilling Jig Mitre Connection 8 D9.

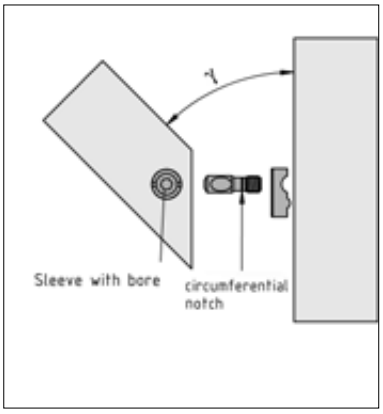
This jig is attached to the end of the profile by fitting it into the ∅ 14.2 mm side drilled hole using the dowel and then tightened flush to the cut profile edge by the clamping lever.

The drilling depth must be at least 12 mm (through to the hole previously drilled from the side).

Next, debur both holes.



Assembly



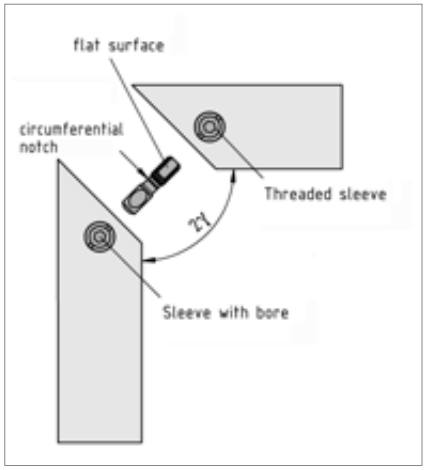
Mitre-Fastening Set 8

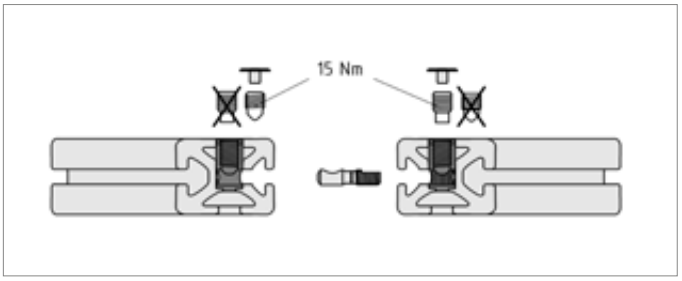
T-Slot Nut V8 M8 St is inserted in the groove of the profile which has not been drilled and the Sleeve with Bore in the ∅14.2 mm hole in the profile.
The slot in the Sleeve with Bore must be aligned towards the Tightening Bolt. The Tightening Bolt is screwed into T-Slot Nut V8 M8 St until the circumferential notch in the Tightening Bolt is flush with the side of the profile. Next, place the two profiles together so that the recess in the Tightening Bolt is visible in the sleeve with bore. Insert and tighten Grub Screw M10 (tightening torque 15 Nm) to join the two profiles together and produce a firm joint. Finally, fit the cap to the internal hex in Grub Screw M10 in the Sleeve with Bore.

Mitre Butt-Fastening Set 8

Insert the Threaded Sleeve and the Sleeve with Bore in the ∅ 14.2 mm holes drilled in the side of the profiles. Align the slots in the two sleeves towards each other. Screw the Tightening Bolt into the Threaded Sleeve until the circumferential notch in the Tightening Bolt is flush with the cut edge of the profile.

The flat surface of the Tightening Bolt must be visible after it has been screwed into the Threaded Sleeve. Next, place the two profiles together so that the recess in the Tightening Bolt is visible in the sleeve with bore. Lock the Tightening Bolt in place in the Threaded Sleeve using Grub Screw DIN915 M10x16. Insert and tighten Grub Screw M10 (tightening torque 15 Nm) in the Sleeve with Bore to join the two profiles together and produce a firm joint.
Finally, fit the caps to the internal hex in Grub Screws M10.





Product development and documentation

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