

# Design and layout of bearing assembly: housing

## Bushes

KS PERMAGLIDE® bushes are pressed into the housing and fixed radially and axially. No further measures are required.

For the housing bore, we recommend:

- Roughness depth  $R_z 10$
- Chamfer  $f_G 20^\circ \pm 5^\circ$   
This chamfer facilitates force-fitting.

Bore diameter $d_G$	Chamfer width $f_G$
$d_G \leq 30$	$0.8 \pm 0.3$
$30 < d_G \leq 80$	$1.2 \pm 0.4$
$80 < d_G \leq 180$	$1.8 \pm 0.8$
$180 < d_G$	$2.5 \pm 1.0$

Tab. 1: Chamfer width  $f_G$  in the housing bore for bushes (Fig. 1)

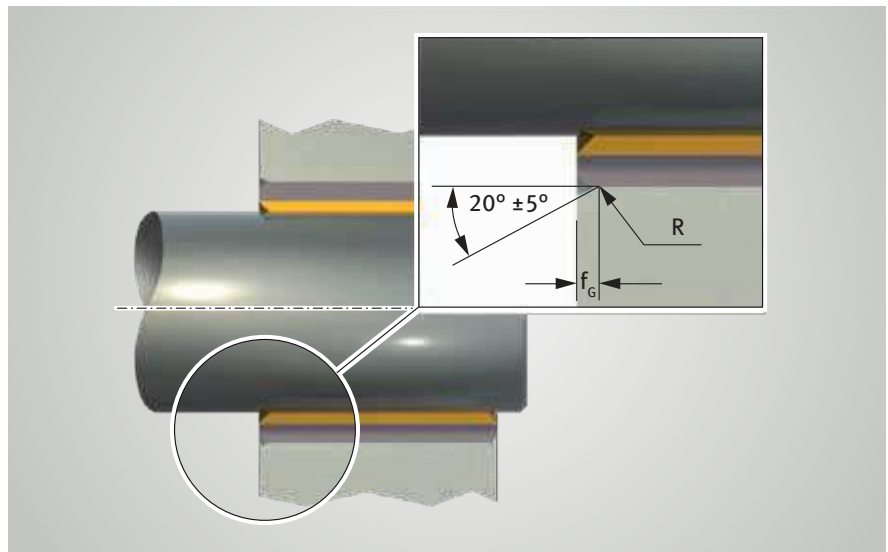


Fig. 1: Chamfer in housing for PAP bush

## Flange bushes

In the case of flange bushes, the radius on the transition from the radial to the axial part must be borne in mind.

- Flange bushes must not be in contact in the radius area.
- The flange must have sufficient support when under axial loads.

Bore diameter $d_G$	Chamfer width $f_G$
$d_G \leq 10$	$1.2 \pm 0.2$
$10 < d_G$	$1.7 \pm 0.2$

Tab. 2: Chamfer width  $f_G$  in the housing bore for flange bushes (Fig. 2)

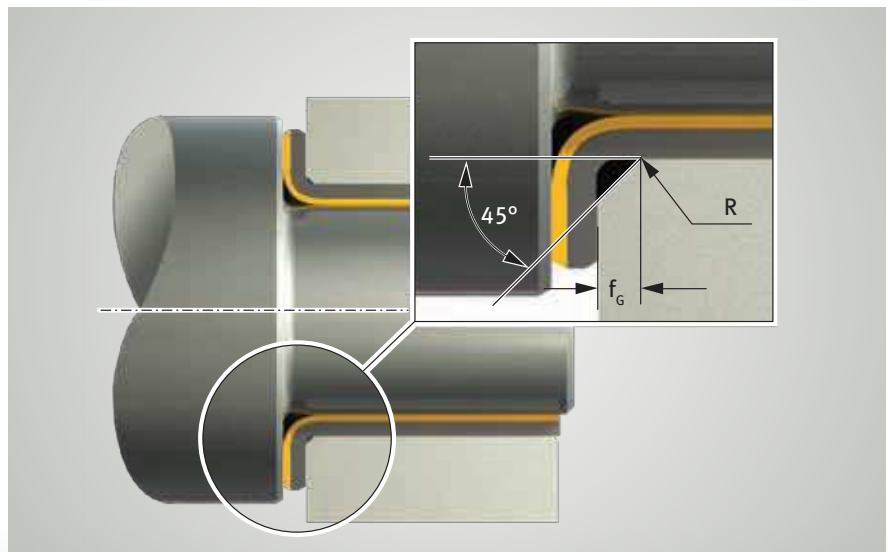
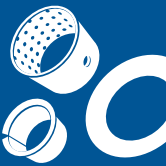


Fig. 2: Chamfer in housing for PAF bush

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### Attaching the thrust washers

Recommendation:

- A concentric fit is ensured by the recess in the housing (Fig. 3)
  - See dimension tables for the diameter and depth of free cuts
- Unwanted rotation with the shaft is prevented by means of a register pin or countersunk screw (Figs. 3 and 4)
  - The screw head or register pin must be recessed by min. 0.25 mm from the sliding surface (Figs. 3 and 4)
  - See dimension tables for size and position of bores.
- If no recess can be made in the housing:
  - Secure with several register pins or screws (Fig. 4)
  - Use other methods for fastening.

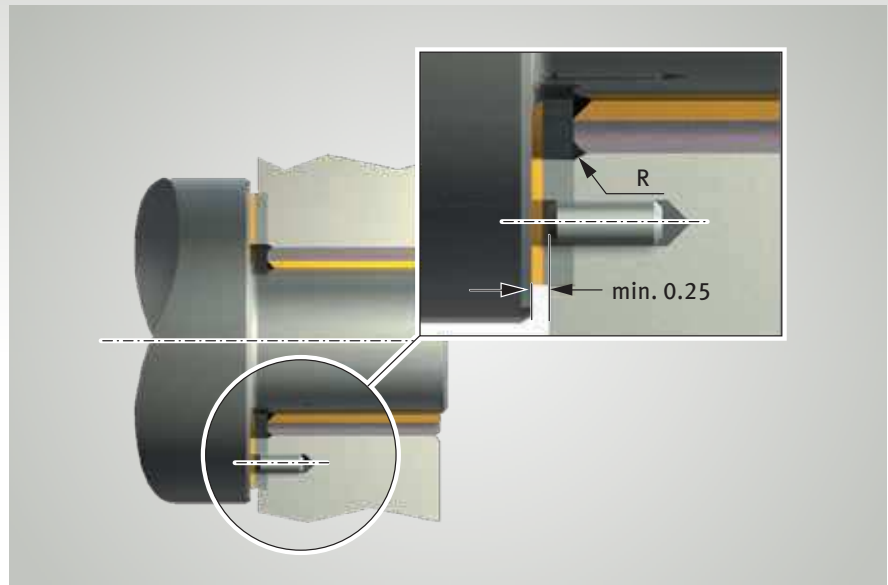


Fig. 3: Attaching a PAW thrust washer in a recess in the housing

Rotation prevention is not always required. In various cases, the static friction between the back of the washer and the housing is sufficient.

### Other fastening methods

If the press fit of the bush is insufficient or pinning or screwing is uneconomical, low-cost fastening methods can be used as an alternative:

- Laser welding
- Soft-soldering
- Gluing; please see the note below

### Attention:

The temperature of the running-in or sliding layer must not exceed +280°C for the KS PERMAGLIDE® P1 and +140°C for the KS PERMAGLIDE® P2. Adhesive must not reach the running-in or sliding layer. Recommendation: Obtain information on gluing from adhesive manufacturers, particularly concerning the choice of adhesive, preparing the surface, setting, strength, temperature range and strain characteristics.

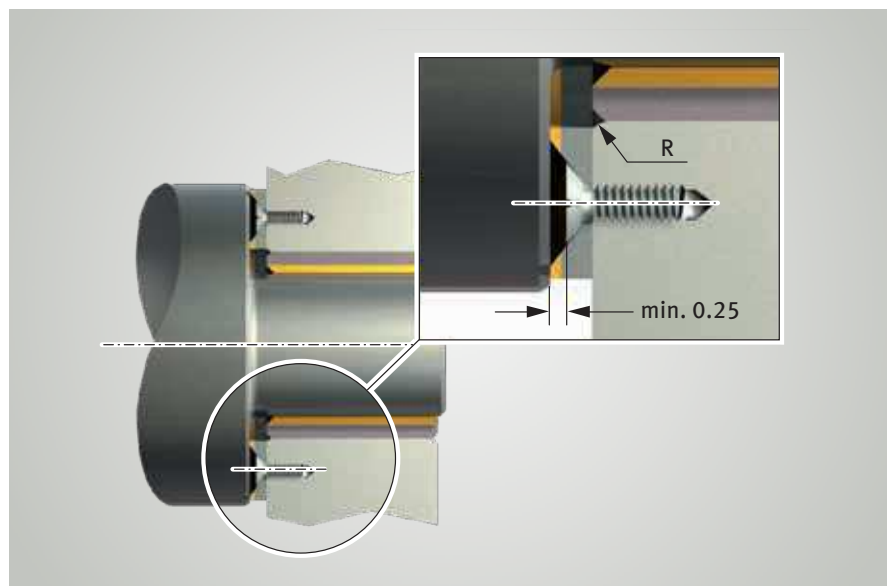


Fig. 4: Attaching a PAW thrust washer without a recess in the housing

\* On request

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