



KS PERMAGLIDE® plain bearings: Bearing in movable workpiece table

Sector: Engineering

Product used

KS PERMAGLIDE® plain bearing strips,
design PAS ... P11

Function

Movable tables are used for equipping hydraulic presses. They enable the machine to be loaded and unloaded quickly. The movable table consists of a workpiece holder mounted on a table. For loading, the table is pulled out and pushed back into the machine with the workpiece once mounted.

Requirements for the bearings in movable tables

- A slight plain bearing clearance is required in order to guide the work table precisely and without canting. The slight plain bearing clearance means that a large portion of the stress from the pressing process is transferred to the frame via the plain bearings.
- In order to pull it out and push it in easily, the table must run smoothly in the guide for the long-term.
- The machine must withstand long periods of use with low maintenance requirements.
- To prevent the table from becoming too big, plain bearings with small dimensions are required.
- The costs for production and mounting should be as low as possible.

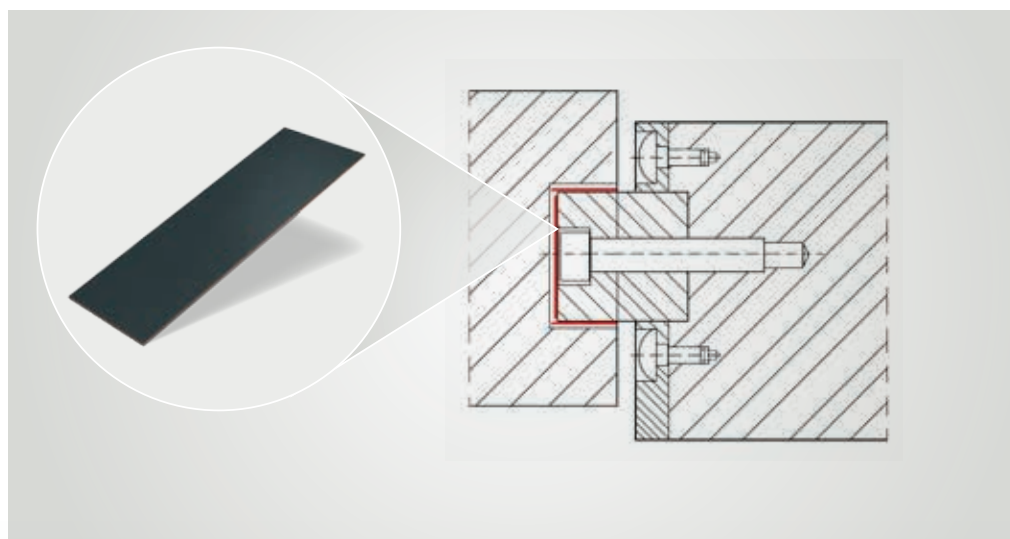
Bearing with KS PERMAGLIDE® P11 plain bearing strips

The bearings on the movable workpiece table of the press have been made with

multiple maintenance-free plain bearing strips in the material KS PERMAGLIDE® P11. The strips were screwed into the recess of the table frame. This ensures that the table is guided by the P11 strips at the side, above and below the table.

Advantages of the KS PERMAGLIDE® P11 plain bearing strips for use in movable tables

- Maintenance-free
- No hardened interacting sliding surface required – providing simple design, low-cost production and mounting of the guide
- Low wear
- Practically constant operating bearing clearance
- Low and constant friction value, ensuring that the table slides smoothly
- Insensitive to impact loads



Bearings of the movable table with KS PERMAGLIDE® plain bearing strips, design PAS ... P11



Further advantages of the material

KS PERMAGLIDE® P11

- High corrosion resistance thanks to bronze backing, no additional corrosion protection required
- Good chemical resistance, including in environments with aggressive media
- Operating temperature range of -200 °C to $+280\text{ °C}$
- Largely resistant to swelling
- Does not absorb water
- Very low stick-slip tendency

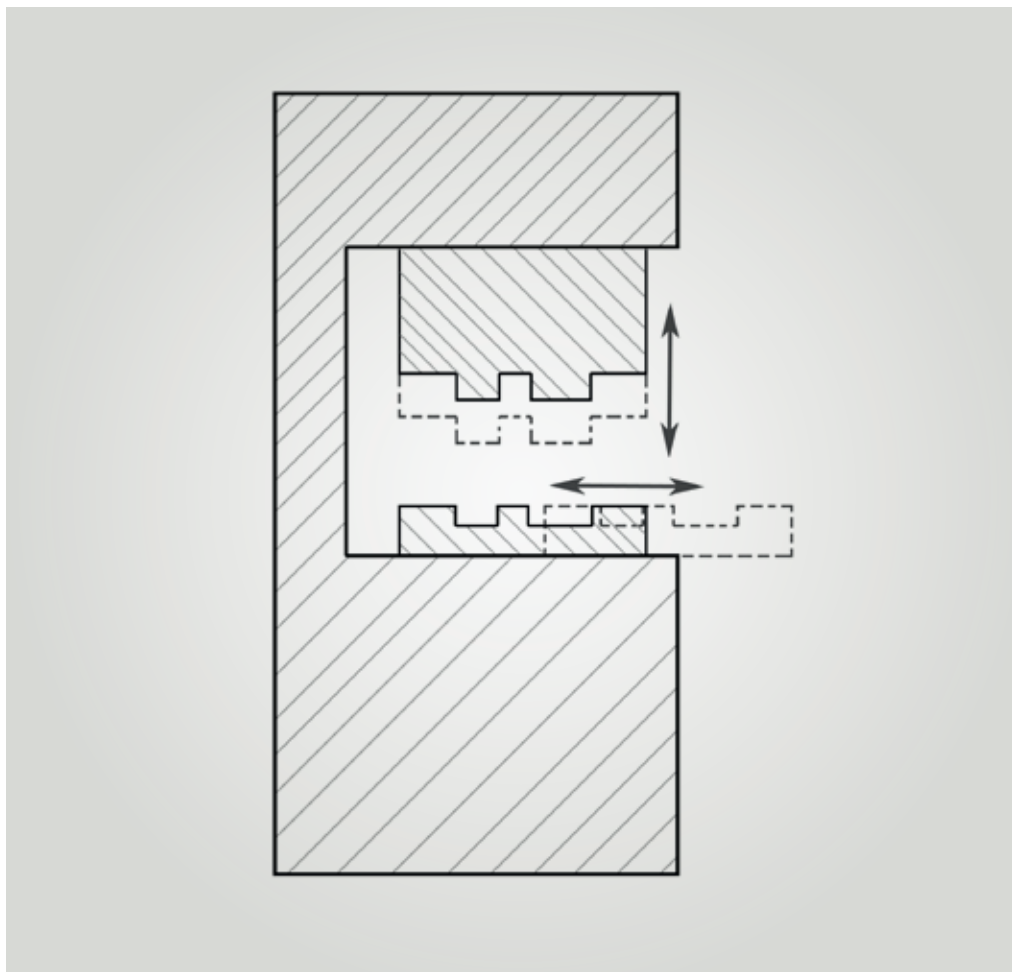
Description of material

KS PERMAGLIDE® P11 is a leaded, robust bearing material that has the highest levels of tribological performance. The material is designed for maintenance-free, dry-running applications, but can also be used in systems with liquid lubrication. The use of grease as a lubricant with P11 is only possible to a limited extent, and is not recommended.

Material P11 is recommended for more stringent requirements in terms of corrosion resistance or for use in aggressive media. The material has some advantages over P10 in this respect:

- Very good thermal conductivity and therefore greater operational safety
- Anti-magnetic
- Higher corrosion resistance thanks to bronze backing

Use in hydrodynamic conditions is possible without problems up to a sliding speed of 3 m/s. In continuous operation above 3 m/s, there is a risk of flow erosion or cavitation. Motorservice offers the calculation of hydrodynamic operating states as a service.



Press with movable workpiece table

Further information on KS PERMAGLIDE® plain bearings

KS PERMAGLIDE® catalogue,
item no. 50003863-02
KS PERMAGLIDE® online catalogue
shop.permaglide.com