



KS PERMAGLIDE® plain bearings: Scissor joints

Sector: Engineering, construction machinery

Product used

KS PERMAGLIDE® plain bearing bush design PAP ... P20

Alternatively, the unleaded material KS PERMAGLIDE® P200 can also be used in compliance with the directive RoHS.

Function

Scissor joints are used e.g. in lifting platforms, cranes, working platforms, trailer platforms, lifts and laboratory lifting platforms. The work area is lifted or lowered by the scissor joints in this case, for example.

The scissor joint consists of legs of equal length that move around a centre axis via plain bearings. Mainly static forces act on the bearings of the scissor joint. A rotary motion occurs in the joint during lifting or lowering.

Requirements for the bearings in the scissor joint

- Jerk-free lifting and lowering of the lifting platform with and without load
- The plain bearing must offer long-term smooth running and run jerk-free in the joint
- No rusting of the joints, even during infrequent use and longer downtimes
- Lower maintenance requirements
- Low installation dimensions

Bearing with KS PERMAGLIDE® P20 plain bearing bushes

In the application, the bearing of the scissor joints was achieved with maintenance-free plain bearing bushes made from the material KS PERMAGLIDE® P20. The plain bearing bushes were pressed into the legs of the scissor joints. This guarantees the smooth and jerk-free guidance of the scissor joint. The material P20 is low-maintenance. The initial lubrication during mounting is sufficient for the entire service life in the application. This means that no maintenance of the plain bearing is required. The grease protects the pin from corrosion and guarantees smooth rotation of the pin in the bearing.

Advantages of the KS PERMAGLIDE® P20 plain bearing bushes for use in scissor joints

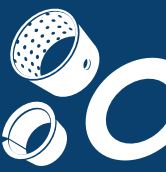
- Low-maintenance operation with lubrication
- Lifetime lubrication possible
- Smooth running
- Highly stressable
- High wear resistance
- Space-saving thanks to thin-wall design
- Good damping characteristics
- Constant and low friction value, which means no jerking



Work platform with scissor joints



Plain bearing bush PAP P20

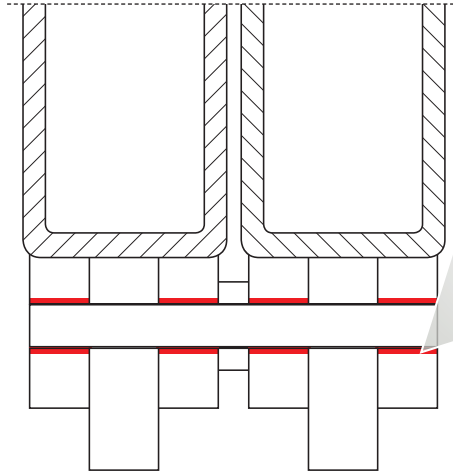


**Further advantages of the material
KS PERMAGLIDE® P20**

- Insensitive to shocks and impacts
- Insensitive to dirt and moisture
- No tribocorrosion
- Good chemical resistance
- Low swelling tendency
- Insensitivity to high edge loading
- With oil distributing pockets, ready to install

Description of material

KS PERMAGLIDE® P20 is a low-maintenance, high-performance leaded bearing material. The material is designed for grease-lubricated or liquid-lubricated applications. This composite, multi-layered material excels thanks to its high rigidity, durability and resistance to oscillation and vibration. These characteristics are largely achieved by a sliding layer system made of polyvinylidene fluoride (PVDF), polytetrafluoroethylene (PTFE) and lead. The wear-resistant material has already proven itself many times in industry. The standard P20 version features oil distributing pockets as per DIN ISO 3547. The bearings are provided ready to install for recommended connection-design installation dimensions. Also available are versions with a different wall thickness, suitable for rework when installed, or with a smooth sliding surface for hydrodynamic applications.



Bearings in a scissor joint with KS PERMAGLIDE® plain bearing bush in design PAP ... P20

**Further information on KS PERMAGLIDE®
plain bearings**

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