PRODUCT APPLICATION

KS PERMAGLIDE® plain bearings: Close coupling system of semitrailers

Sector: Utility vehicle production

Products used

KS PERMAGLIDE® plain bearing bush
design PAP ... P20
KS PERMAGLIDE® thrust washer
design PAW ... P20

Function

Close coupling systems are used between the trailer and towing vehicle on semitrailers. The distance between the trailer and towing vehicle is extremely small during forwards travel. The close coupling moves the trailer away from the towing vehicle by 500 mm in curves. The advantage over normal coupling systems is the longer loading area with the same total length.

The bridge is twisted in relation to the trailer in curves. The twisting of the bridge is transferred to the ring gear. The ring gear engages in a ring gear ring on the crank disc. The connecting rod is fastened with bearings on the trailer and on the crank disc. This means that the crank mechanism is adjusted in every curve. The trailer is moved backwards on linear guides.

Bearing with KS PERMAGLIDE® P20 plain bearing bushes and thrust washers

In the specified application, KS PERMAGLIDE® P20 plain bearing bushes are used for the linear guide. There are two rigid shafts running on the trailer in two KS PERMAGLIDE® P20 plain bearing units each. The plain bearing bushes are pressed into the connecting rod. KS PERMAGLIDE® P20 thrust washers are used for the axial bearing.

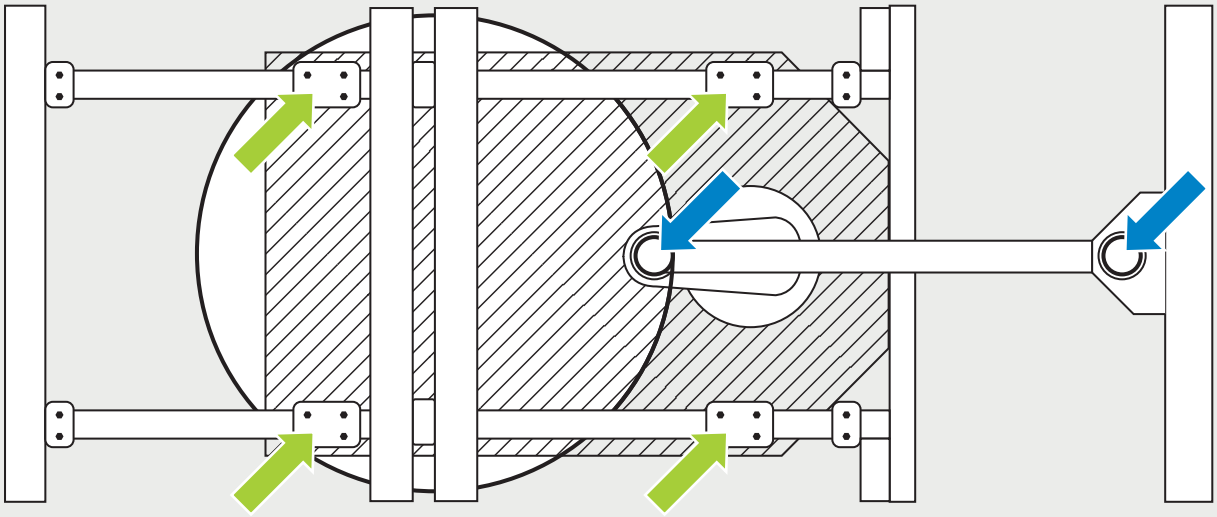
Using the KS PERMAGLIDE® P20 plain bearing bushes and thrust washers means that the close coupling also functions reliably under difficult conditions:

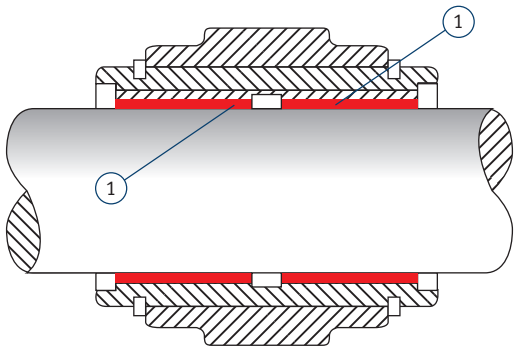
- High wear resistance
- Highly stressable
- Insensitive to shocks and impacts
- Insensitive to dirt and moisture
- No tribocorrosion
- Smooth running
- Good damping characteristics
- Low-maintenance operation with lubrication

Description of material

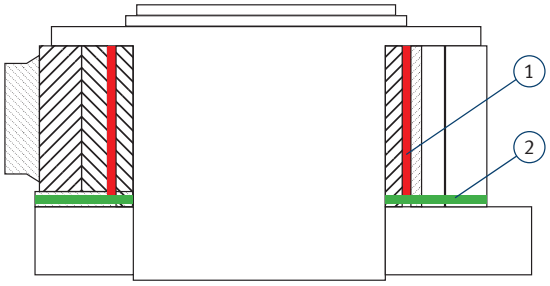
KS PERMAGLIDE® P20 is a low-maintenance, high-performance leaded bearing material. The material is designed for grease-lubricated or liquid-lubricated applications. This composite, multi-layered material excels thanks to its high rigidity, durability and resistance to oscillation and vibration. These 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.

Top view of the pivot of the coupling system





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



1 KS PERMAGLIDE® plain bearing bush design PAP ... P20
2 KS PERMAGLIDE® thrust washer design PAW ... P20

Further information on KS PERMAGLIDE ® plain bearings

- KS PERMAGLIDE® catalogue, item no. 50003863-02
- KS PERMAGLIDE® OnlineShop www.permaglide.com/onlineshop