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For technical personnel only!
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APPLICATION INFO

BEARINGS IN FORKLIFT TRUCKS GUIDANCE OF THE FORK LATERAL ADJUSTMENT

INDUSTRY

Forklift truck technology, transport device construction, storage technology

PRODUCT USED

KS PERMAGLIDE® plain bearing half-shell model PAX ... P20

FUNCTION

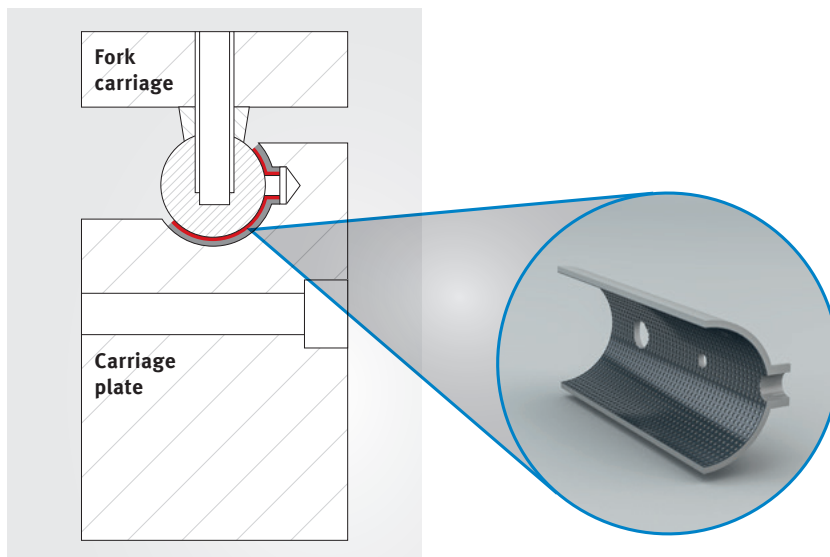
Forklift trucks are used for lifting, transporting and unloading loads on pallets, e.g. in logistics and manufacturing companies.

The lifting mechanism of forklift trucks consists of a lift mast and a fork carriage with 2 fork arms. The forks can be lifted or lowered and adjusted laterally on the lift mast so that the loads can be positioned and held easily. The forks can be moved hydraulically via a carriage plate.

When positioning the pallets, severe shocks and asymmetrical stress act on the forks. Depending on the field of use, forklift trucks are subjected to a wide range of ambient conditions, such as dust, moisture, cold or heat.

REQUIREMENTS FOR THE BEARINGS IN FORKLIFT TRUCKS

- insensitive to shocks and vibrations
- insensitive to high edge loading with asymmetrical stress
- insensitive to extreme ambient conditions
- high operational safety
- long service life
- low maintenance requirements



Bearings in forklift trucks with KS PERMAGLIDE® plain bearing half-shells, type PAX ... P20



Forklift truck



BEARING WITH KS PERMAGLIDE® P20 PLAIN BEARING HALF-SHELLS

The bearings used in the application for the fork lateral adjustment guidance are low-maintenance plain bearing half-shells made from KS PERMAGLIDE® P20 material. This ensures that the forks can be adjusted laterally jerk-free and without being canted. The smooth adjustment of the forks is also guaranteed under extreme ambient conditions with low maintenance requirements.

ADVANTAGES OF THE KS PERMAGLIDE® P20 PLAIN BEARING HALF-SHELLS FOR USE IN FORKLIFT TRUCKS

- high wear resistance
- highly stressable
- smooth running
- constant and low friction value
- insensitive to shocks and impacts
- insensitive to dirt and moisture
- insensitive to high edge loading
- 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.



Guidance of the fork lateral adjustment

KS PERMAGLIDE® P20 consists of a plastic-metal composite system. Thanks to the thin-walled construction method, the plastic-metal composite system can be reshaped into any plain bearing element in a space-saving way. Oil distributing pockets in the sliding surface act as grease reservoirs for lifetime lubrication. In more challenging conditions, regular relubrication is recommended, e.g. in the case of heavy soiling. The material offers good damping characteristics and a high load bearing capacity (static 250 MPa). These characteristics are largely achieved by a sliding layer system made of polyvinylidene fluoride (PVDF) with friction-reducing additives (polytetrafluoroethylene, lead).

The material offers high chemical resistance to mineral oil-based greases and oils and does not react with the interacting sliding partner. This characteristic helps to avoid tribochemical corrosion. 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.

FURTHER INFORMATION ON KS PERMAGLIDE® PLAIN BEARINGS

KS PERMAGLIDE® catalogue, item no. 50003863-02