PRODUCT INFORMATION

PERMAGLIDE® plain bearings

Advantages over rolling bearings

Typical characteristics determine how well-suited a bearing design is for an application. Here, numerous factors influence the choice of bearing design, such as engine speed, weight and installation space.
Plain bearings have many advantages over rolling bearings and are therefore very well-suited to numerous applications.

Advantages of PERMAGLIDE® plain bearings (maintenance-free and low-maintenance)

- Minimal space requirement and low weight due to compact construction
- High durability
- Good damping of impacts, shocks and vibrations
- Tolerant to soiling, therefore lower sealing effort required
- Hydrodynamics in lubricated, high-speed applications
- Suitable for rotational, oscillating and translational motions
- Low costs for the adjacent construction, e.g. housing and shafts
- Low installation effort
- Very even running at high and low velocities
- Corrosion-resistant
- High durability
- Use at very high and very low temperatures (–200 °C to +280 °C)
- Various shapes and material compositions for different applications
- Special shapes and special dimensions

Application-specific advantages of plain bearings over rolling bearings

When used in stationary applications, plain bearings have an advantage over rolling bearings in that the plain bearings do not become embedded and do not seize up due to rusting.
When used in vibrating or swivelling applications, plain bearings have the advantage that no grooves are formed. This formation of grooves is also called “false brinelling”, hollow formation, stationary marking or vibratory wear. This formation of grooves may occur when using rolling bearings, e.g. in wind turbine systems, construction machines, pumps, other machines or wheel bearings.

The use of plain bearings is especially well-suited for applications with the following characteristics:

- High velocities in a liquid-lubricated environment, e.g. turbines, generators, centrifugal pumps, ship shaft bearings
- Low velocities and high levels of compression where impacts and vibrations can also occur, e.g. compactors, hammers
- Where bearing or guiding tasks can be conducted with low effort and cost, e.g. lifting tools, agricultural machinery, kitchen appliances

Rolling bearing