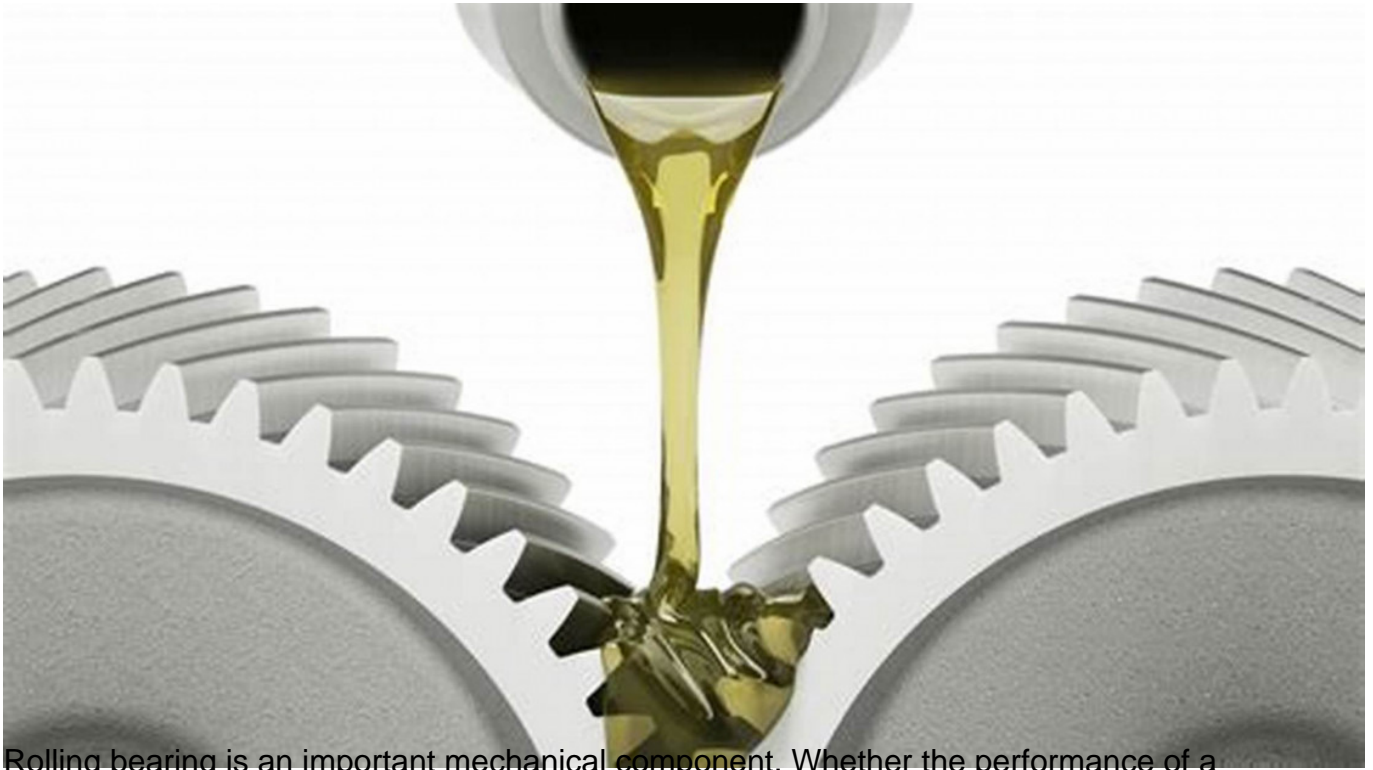


Lubrication Selection Reference for Rolling bearings



Rolling bearing is an important mechanical component. Whether the performance of a mechanical device can be fully exerted depends on whether the lubrication of the bearing is appropriate. It can be said that lubrication is a necessary condition for ensuring the normal operation of the bearing, and it improves the bearing capacity of the bearing and Service life plays an important role. Regardless of the type of lubrication used, lubrication can play the following roles in rolling bearings:

- (1) [Reduce the friction between metals and slow down their wear.](#)
- (2) The formation of the oil film increases the contact area and reduces the contact stress.
- (3) Ensure that the rolling bearing can operate normally under high frequency contact stress for a long time and prolong the fatigue life.
- (4) Eliminate friction heat, reduce the working surface temperature of the bearing and prevent burns.
- (5) It is dustproof, rustproof and anticorrosive.

Therefore, [proper lubrication is very important for the normal operation of the rolling bearing.](#)

The lubrication design of rolling bearings mainly includes: the determination of reasonable lubrication methods, the correct selection of lubricants, the quantitative calculation of lubricant dosage and the determination of oil change intervals. Rolling bearing lubrication can generally be divided into three categories: oil lubrication, grease lubrication and solid lubrication depending on the type of lubricant used. Among them, oil lubrication has a wider temperature range than other lubrication methods, and is more suitable for bearings working under high speed and high load conditions. At the same time, because of oil lubrication, it also has convenient equipment maintenance and lubricant replacement, and friction pairs in the system such as gears. The advantages of simultaneous lubrication, so far, the most common use of oil lubrication for bearings. Grease lubrication has the advantages of simple sealing device, low maintenance cost and low cost of grease. It is widely used in bearings running at low speed,

medium speed and medium temperature. In particular, the advent of anti-wear additives in recent years has improved the lubricating properties of greases and made grease lubrication more widely used. If oil lubrication and grease lubrication are used to achieve the required lubrication conditions for the bearings, or if specific operating conditions are not met, a solid lubricant can be used or the bearing's own lubrication properties can be improved.