

Bearing material

Bearing steel features:

First, contact fatigue strength

Under the action of cyclic load, the bearing is easily exposed to fatigue damage, ie cracking and spalling occurs, which is an important destruction situation of the bearing. Therefore, in order to improve the service life of the bearing, the bearing steel must have a high contact fatigue strength.

Second, wear resistance

In the bearing task, not only the rolling friction occurs between the rings, rolling elements and the maintenance frame, but also the sliding friction occurs, so that the bearing components are constantly worn. In order to increase the wear of the bearing parts, maintain the stability of the bearing accuracy, extend the service life, the bearing steel should have good wear resistance.

Third, the hardness

Hardness is one of the important qualities of bearing quality, and has an indirect effect on contact fatigue strength, wear resistance, and elastic limit. The hardness of the bearing steel in the operating conditions must reach HRC61~65 individually, so that the bearing can achieve higher contact fatigue strength and wear resistance.

Fourth, anti-rust performance

In order to avoid the erosion and rust of the bearing parts and finished products in the course of processing, storage and operation, it is required that the bearing steel should have good rust-proof performance.

Fifth, processing performance

Bearing parts in the consumer process, through a number of cold, hot processing processes, in order to meet the requirements of a small amount, high efficiency, high quality, bearing steel should have good processing performance. For example, cold and hot forming properties, cutting performance, hardenability and so on.

In addition to the above basic requirements, bearing steels should also meet requests for appropriate chemical composition, average external organization, low number of nonmetallic inclusions, external appearance defects and specifications, and appearance of decarburized layers that do not exceed the regulatory concentration.