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Brand: FAG

Series: angular contact ball bearings

Model: 7217C/DB bearings

The old model: 346212 bearing

Diameter: 60mm

Outer diameter: 110mm

Thickness: 44mm

Type: face-to-face duplex mounting angular contact ball bearings of the [70000C (AC, B) /DF] B 2B

The residual stress value (kg/mm²) of carburized 880-900 salt bath isothermal heating degree, 260 degrees 40 minutes -65

Heating in salt bath quenching after carburizing of 880-900 degrees, 260 degrees 90 minutes -18 isothermal

Heating in salt bath carburized 880-900 degrees, 260 degrees 40 minutes 260 degrees isothermal tempering, 90 minutes -38

From table 1 the test results can be seen that the isothermal quenching has higher surface residual compressive stress quenching and low temperature tempering process than usual. After isothermal quenching even low temperature tempering, the surface residual compressive stress, low temperature tempering after quenching is higher than. So we can draw such a conclusion, namely the surface residual after carburizing carburizing and quenching and low temperature tempering isothermal quenching than usual to get the compressive stress is higher, from the surface layer of compressive residual stress on the fatigue resistance of the beneficial effects of point of view, isothermal quenching process of carburizing is a effective method of improving fatigue strength of carburized parts. Why can the carburizing and quenching process for obtaining surface residual compressive stress? Why can the carburizing isothermal quenching surface greater residual compressive stress? There are two main reasons: one reason is that the surface of high carbon martensite volume than the volume of core part of low carbon martensite, quenching after surface volume expansion and swell, the heart of low carbon martensite volume expansion of small, restricted the surface of the free expansion, resulting in tensile stress state by surface pressure center. Another more important reason is beginning to change high carbon undercooled austenite to martensite transformation temperature (M_s), the temperature started than core carbon transformation of super cooled austenite to martensite of low quantity (M_s) low. That is to say in the quenching process is often heart first produce martensite transformation induced heart volume expansion, and obtains the enhancement, and the surface is also the end of cooling to the corresponding transformation of Martensite Start Point (M_s), it is still in the undercooled austenite state, has good plasticity, not serious suppression effect on change of heart martensite volume expansion up. With the declining quenching temperature make the surface temperature drop to the (M_s) below, the surface martensite transformation, causes the expansion of surface volume. But the heart department at this time already transforms into martensite and strengthen the heart, so the Ministry of surface volume expansion will play great role in the suppression of the surface layer, residual stress. Isothermal quenching after carburizing and in, when martensite isothermal temperature in carburized layer body transformation start temperature (M_s) above, the core of the martensite transformation start temperature (M_s) temperature appropriate isothermal quenching point below, can guarantee this change order characteristics than continuous quenching (i.e. guarantee cooling the process of changing the surface martensite arise only from isothermal in post). There is a great influence of course after carburizing isothermal temperature and time of isothermal quenching on the surface residual stress. Some people have been tested on specimens of 35SiMn2MoV steel after carburizing surface residual stress in 260 C and 320 C isotherm after 40 minutes, the results in table 2.