



## Cutting tool coating in the application of shaft processing

Steer through shaft for important transmission parts on the tin, sent to the effect of drive axle. Its quality directly affects the vehicle running normally.

The input structure of rectangle spline spline original drawings, processing technology is: rolling rectangular spline a - Cylindrical grinding c - Cylindrical grinding d - hot straightening c - Grinding rectangle spline a. In 2007, the company is trying to change STR through shaft spline to involute spline, and with small batch trial production. The processing method is: before the hot grinding cylindrical rolling involute spline b- Rolling involute spline a- hot mill before rolling spline cylindrical c - Rolled spline d - hot straightening c - hot after straightening b. Spline connection involute, eliminate the phenomenon of the original rectangle spline form grinding cracks, but before hot, need to add a c in cylindrical grinding process, and because the heat after need straightening accuracy at the same time meet a, c, bring great difficulty to processing, and production efficiency under certain influence.

To ensure the sealing of the whole bridge, so need to make sure that flange and through spline shaft assembly after beating the amount for the oil seal, so the involute spline is especially important for bearing installation diameter. According to the actual situation of our factory equipment, through before hot rolling involute spline shaft ability in 0.04 beating process. Because more heat straightening, batch production, the heat treatment quenching ability in 0.08 after straightening process, unable to meet the requirements of product drawing 0.06, often appear because of flange and well versed in spline shaft assembly after comprehensive jitter due to the high volume of oil seal leak.

According to the principle of metal cutting, in the normal cutting, tool wear mainly include the following: after the blade wear; Before the blade wear, namely crater wear; Before and after the blade wear at the same time.

Coating refers to the strength and toughness good carbide or high speed steel, a thin layer of abrasion resistance good refractory metal or nonmetal compounds, as a chemical barrier and thermal barrier coating, reduce the diffusion and chemical reaction between the cutter and workpiece, thereby reducing the crater wear. Coated tools has high surface hardness and wear resistance, stable chemical properties, good heat resistance to oxidation, low friction factor and low thermal conductivity characteristics.