makes the overall stress level drops, greatly reducing the grinding crack

(1) to expand the application range of GCr15 steel, M generally GCr15 steel quenching ring effective wall thickness under 12 mm, but the BL quenching by nitrate cooling ability is strong, if use the measures, such as stirring, string move, add water ring effective wall thickness can be expanded to about 28 mm.



(2) hardness, stability and good uniformity
The BL change is a slow process, generally GCr15 steel 4 h, GCr18Mo steel need 5 h, ring in long isothermal nitrate, on the surface of the core organization transformation almost simultaneously, so the hardness of stability, uniformity, good general BL GCr15 steel after quenching hardness in 59 ~ 61 HRC, uniformity of 1 or less HRC, unlike quenching ring wall thickness slightly bigger when there is low hardness, soft point, poor uniformity.
(3) reduce the quenching and grinding cracks
In railway, rolling mill bearing production, because the ring size, weight, oil quenching M the organization brittleness is big, in order to obtain high hardness after quenching is often strong cooling measures, as a result, quenching cracks;And BL quenching, because is much better than M BL organization toughness, at the same time, the surface is as high as 400 ~ 500 mpa compressive stress, greatly reducing the quenching crack tendency;When grinding surface compressive stress to offset some of the stress.



(4) improve the service life of rolling bearings

To withstand large impact load of railroad, rolling mill bearings, etc., after M quenching when using main failure forms is: inner sleeve cracking when assembling, use in the process of impact outer ring, inner ring fracture, falling guard and isothermal quenching bearing with good impact toughness, surface compressive stress, whatever the assembly inner sleeve craze, or using Chinese and foreign set of guard metal shed and inner sleeve fracture tendency is greatly reduced, and can reduce the edge stress concentration of roller.Therefore, after isothermal quenching than M after quenching the average life expectancy and improve reliability.