

NSK Papermaking Machinery

In recent years, the papermaking industry has been making great strides by enhancing the speed and the width of coverage of papermaking machines with the objective of boosting productivity. To reduce the amount of downtime caused by unexpected problems, customers demand high reliability from the bearings that are used in papermaking machines. NSK has developed a range of bearings that meet these demands, and the company's bearings are used in all sections of modern papermaking machines. In particular, NSK is supporting papermaking with two kinds of bearings:

?TL (tough and long life) bearings designed specifically for dryers. These were developed by taking full advantage of the company's material heat treatment technologies
?NSKHPS™ High Performance Standard Bearings for Industrial Machinery Spherical Roller Bearings developed by integrating NSK's materials, design and manufacturing technologies. NSK will continue to develop highly reliable bearings that will lead to further productivity improvements in the papermaking industry, and it will continue to contribute to the development of the industry.

The bearings that are used in the dryer rolls of papermaking machines operate in hot environments because high temperature steam is passed through the rolls. The following are examples of the kinds of bearing damage that can consequently arise:

1. early abrasion caused by insufficient formation of a film of lubricating oil
2. creep from bearing variance caused by use at high temperatures over long period
3. fracture of the inner ring in the bearing from an increase in fitting stress as a result of temperature differences between the shaft and the ring.

In particular, fracture of the inner ring (3, above) in the bearing can constitute a serious incident that results in production stoppages. In response, NSK has developed its TL (tough and long life) bearings. Thanks to the use of a special nitrocarburizing treatment for the materials, the fracture strength of the inner ring has been increased and dimensional stability at high temperatures is excellent.

These TL bearings have the overwhelming trust of the market, and they enjoy an unassailable position as the leading choice for dryer cylinder roll bearings.