

Bearings for Rolling Stock

Various types of bearings are used as "rolling stock" bearings in railway axle-boxes. Cylindrical Roller Bearings and Tapered Roller Bearings are currently the bearing types most often favored for use since they can sustain high loads and provide excellent reliability.

Journal Bearings

Double-row Cylindrical Roller Bearings or Double-row Tapered Roller Bearings for Journal applications are used for each of their capabilities. Cylindrical Roller Bearings are mostly used for easy maintenance and adaptability of high-speed. But in recent years, Tapered Roller Bearings are often used for adaptability of high-speed and long life without overhaul.

JIS(ISO) standard bearings are generally not used in journal bearing applications due to limited space and large load.

Journal bearings are specially designed wider bearings.

Cylindrical Roller bearings without a rib on the inner ring are used with the JB series Ball Bearings that handle axial loads.

Sealed Tapered Roller Bearings and sealed Cylindrical Roller Bearings with side ribs on the inner ring to carry thrust loads can be used for extended periods without overhaul. For this reason sealed bearings are used more often recently.

Bearings with a prefix JC, JT and JB are made to the specifications of Japan Railway Companies. A FCD type is made to NACHI design standards.

Bearings for Gear box

These are bearings for a gearwheel and a pinion. They are mostly Tapered Roller Bearings, because they can sustain radial and large axial loads. They are lubricated with high viscosity gear oil, so the bearings for a pinion application are usually designed specially to prevent seizure at lower temperature. Also these bearings have been specially designed to withstand the severe vibration conditions which are normally found in this type application.

QT type bearings are made to the specifications of Japan Railway Companies, a ED type is made to NACHI design standards.

Bearings for Traction motor

For traction motor, Deep-groove Ball Bearings and Cylindrical Roller Bearings without inner ring ribs are usually used together. These bearings have been specially designed to withstand high speed in grease lubrication and the severe vibrational load conditions.

NACHI bearing numbers for the traction motor applications have suffix JT for Deep-groove Ball Bearings and T, TS, or TSL for Cylindrical Roller Bearings.

Special designs

Contact NACHI for the availability of other sizes.