LONG-LIFE SEALED SPHERICAL ROLLER BEARINGS FOR CONVEYOR PULLEY IN THE MINING INDUSTRY
Bearing series designed for Mining Machinery

Spherical Roller Bearings with Detachable Seal (SSRB)

Durability and reliability are of paramount importance to bearings used in mining and quarrying conveyor applications, where failure can impact productivity of the entire operation. For the arduous and highly contaminated operating conditions that typically prevail, NSK has developed a spherical roller bearing with a detachable seal. These long-life bearings provide operators of conveyor systems the benefits of increased uptime and a higher degree of reliable performance.

Proven Benefits

› NSK’s Tough Steel has longer service life in contaminated operating environments
› High performance seal design, including characteristics to compensate for bearing misalignment
› Removable seal permits measurement of internal clearance during installation
› Easy, bolt-fastened installation of seal
› Dimensionally interchangeable with conventional spherical roller bearings

Combining the Tough Steel material technology with an advanced and easy-to-install seal, NSK delivered a high capacity and high performing solution to contaminant-related bearing failures in conveyor applications.

NSK Material Strength

Microstructure (Hard and fine-grained carbon nitrides by Tough technology)

- Tough Steel
- Carburized Steel

High Hardness (Tough Steel > Carburized Steel)

- Hard contaminant particle gets pressed between rolling element and raceway.
- Dent left in raceway surface has raised edges that multiply stress levels and decrease fatigue life.

Design Features

1. Bearing Boundary Dimension

SSRB features the same boundary dimensions with - in most cases - a higher Cr when compared to the standard unsealed bearing. It is not necessary to change the structure around the bearing.
2. Special Bearing Material & Heat Treatment

- NSK adopts tougher steel for the inner & outer ring in order to extend bearing life and to prevent wear on the raceway under poor and severe lubrication conditions.
- High Cr value can be obtained featuring the life extending attribute of Tough Steel bearing material.

3. Seal Design

- Integral garter spring ensures high sealing performance with ability to compensate for bearing misalignment.
- Hydrogenated nitrile butadiene rubber is used for seal material tolerating up to operating temperature of 100ºC.
- Seal lip contacts on the bearing inner ring with easy, bolt-fastened installation of the removable seal holder to the bearing outer ring.
- NSK supplies the SSRB without packed grease featuring the ability for the end user to select and pack their own grease.

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<th>NSK SSRB Reference Number</th>
<th>Cr (kN)</th>
<th>Cor (kN)</th>
<th>d (mm)</th>
<th>D (mm)</th>
<th>B (mm)</th>
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