Increase reliability and decrease environmental impact with the SKF sealed solution.

Benefits

- Increased reliability
- Extended bearing service life
- Longer MTBF
- No re-greasing
- Environmentally friendly
- Reduced costs

Typical applications

- Mining
- Ports
- Shipping
- Steel Mills
- Forestry

The problem

The typical operating environment for a large conveyor often leads to premature

bearing failures in the head and tail pulley, the take-up pulley and the impact idlers. In these locations, the ingress of dirt, sand and other abrasive contaminants into the bearing is virtually impossible to stop unless special steps are taken.

One way to increase mean time between failures (MTBF) is to continuously pump large quantities of grease into the housing to protect the bearing. While re-greasing can extend MTBF, it is costly in terms of the initial cost of the lubricant and its disposal, not to mention the cost of manpower. It is also costly in terms of environmental impact. Other ways to increase the service life of bearings is to use a solid lubricant in the bearing or to use taconite seals, a very advanced labyrinth seal. Though effective in most cases, these two alternatives are extremely expensive.

The solution

The sealed solution for conveyors is an environmentally friendly, cost-effective bundle of products that can extend bearing service life without solid lubricants, taconite seals or large quantities of grease. The sealed solution consists of four basic components:

- Sealed SKF Explorer spherical roller bearings
- SKF plummer (pillow) block housings
- SKF L or S-type housing seals
- SKF Green grease

Three layers of protection

The effectiveness of the SKF sealed solution is in its simplicity. When installed, the sealed solution provides the bearing with three layers of protection.

Integral bearing seal - keeps the lubricant in the bearing cavity while keeping contaminants out.

SKF Green grease – Housing can be packed with an environmentally friendly grease to shield the bearing against contaminants.

SKF L-seal or S-seal – Protects against extremely fine contaminants and can eliminate the need for expensive taconite seals. For very abrasive environments, SKF recommends using the S-seal in combination with the SKF integral bearing seal.

For more information on SKF products and solutions for the material handling industry, contact your SKF Authorized Distributor.

Increase the return on your maintenance investment with SKF.

The whole idea behind the SKF 360° Solution is to help you get more out of your plant machinery and equipment investment.

This may mean lowering your maintenance costs, raising your productivity, or both! Here's an example of the SKF 360° Solution at work in the material handling industry.

Increased MTBF
SKF spherical roller bearings seal out contaminants to offer extended bearing service life. If needed the bearings, housings and housing seals can be changed out during regularly scheduled lagging rework.

Enhanced ROI
Sealed SKF spherical roller bearings cut costs by reducing unplanned downtime and the related costs for replacement components.

Never needs re-greasing
A sealed SKF spherical roller bearing is filled with a high-performance grease at the factory and does not require re-greasing under normal operating conditions – reducing costs for lubricant, lubricant disposal and manpower. However, these bearings have a relubrication feature for extreme operating conditions.

SKF Conveyor Industry Study: The cost of bearing failures

SKF recently studied the performance of large conveyors in port and mining applications to determine the causes of bearing failure and cost of downtime and repairs.

The study, which included five major mining operations and seven ports, focused on different pulley bearings in conveyors with an average of 20 positions. The study revealed that operators would prefer to replace the bearings every four years during pulley replacement. However, the bearings often fail prematurely and unplanned downtime is the result. In most cases, premature failures were due to inadequate sealing and the ingress of contaminants into the bearing cavity.

Mining operations have the highest costs related to unplanned bearing replacement, often losing a full eight hours of production. As shown below, that unplanned downtime can result in more than (800 000 SEK) in costs.

Cost of Bearing Replacement (figures in SEK)	Planned maintenance interval	Unplanned bearing failure
Bearing cost	9 000	9 000
Labor (3 men x 8 hrs.)	12 000	12 000
Cost of production loss	0	800 000
Total cost of bearing failure	21 000	821 000

SKF 360° Solution ROI calculations are from the SKF Documented Solutions Programme. Ask your SKF Authorized Distributor for more details.

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