



Reduce the risk of unplanned downtime by monitoring ultra low speed bearings

Benefits

- Early identification of bearing faults
- Reduced risk of accidents due to failure
- Reduced unplanned downtime
- Reduced maintenance costs

Typical applications

- Converters
- Ladle turrets
- Torpedo cars
- Travelling cranes

SKF monitoring technology and services provide effective predictive maintenance for machines rotating below 10 revolutions per minute (rpm)

Steelmaking has many critical applications using slow rotating bearings. These bearings are often in dangerous or hard to reach locations, have high replacement costs, long delivery times and can take days or weeks to replace. As a result, it is important to know their exact condition at all times. However, due to the low speeds, basic vibration monitoring and analysis procedures are not sufficient.

The result? Some mills either allow the bearings to run to failure or replace them after a defined number of hours in operation. Both approaches can lead to a high level of risk and sub-utilization of the real bearing service life.

The solution? A complete bearing monitoring programme designed for low speed applications from SKF. This includes out-of-service checking such as visual inspections and wear gap measurements during major outages as well as in-service techniques such as periodic grease sampling/analysis and multi-parameter low speed vibration monitoring.



There is an industry myth that rolling element bearings operating at low speeds cannot be monitored using vibration analysis techniques. In fact, SKF has patented and proven signal processing technology that is highly effective for detecting and diagnosing bearing faults even at 10 rpm or below. SKF has the tools and knowledge to provide you with a thorough condition assessment of your critical low speed bearing applications.



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 is an example of the SKF 360° Solution at work in the metals industry.

Low-speed monitoring helps mill address safety and reliability concerns

The situation

Following a costly, unscheduled shut-down caused by a faulty converter bearing, a steel manufacturer replaced the bearing. Shortly after start-up, noise continued to emanate from the bearing housing.

The SKF solution

Concerned about safety, high insurance premiums and long-term reliability, the steel producer signed a monitoring services agreement with SKF.

Over the next year and a half, SKF monitored the converter to help provide reliable operation and avoid the labour, downtime and material costs associated with a premature repair.



The results

The SKF slow speed monitoring services agreement resulted in an estimated net savings of over \$217,000 for the mill. See below for a summary of the return on investment.

Return on Investment (ROI) Summary*

Labour savings	\$12 150
Savings in cost of bearings, seals and related products replacement	\$250 000
Investment in SKF services over 18 months	\$45 000
Net labour and component replacement savings	\$217 150
Total ROI	483%

*Figures quoted are rounded and based on steel producer's estimates of material, labour and production costs.

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