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NSK

INDUSTRY NEWS UPDATE

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NOVEMBER/DECEMBER 2009

NSK INDUSTRY NEWS UPDATE

PUMP BEARING RELIABILITY:

4 Installation Procedures to Maximize Performance

In tough working environments, machine reliability can be difficult to maintain – especially when contaminants threaten bearings and components. NSK engineers devote their attention to the needs of bearings in the real-life applications and challenging environments in which they will be used. One such application is the impeller slurry pump – a piece of machinery that often faces frequent downtime, high maintenance costs and high levels of premature bearing failure.



In the case of one cement producer, screw pump failure due to failed bearings was resulting in high replacement, maintenance and downtime costs – something the company couldn't afford to ignore. Because screw pumps operating in a cement plant are subjected to extreme levels of cement dust and dirt, dust contamination was determined to be the ultimate cause of the bearing failures.

Impeller pumps require specific installation practices to ensure that they achieve top performance under contaminated conditions:

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No industry knows better than the the minerals and utilities industry that downtime is not an option. Dig deep with NSK and uncover the maximum uptime and efficiency your Industry needs.

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NSK bearings are right for every industry. Read more about our satisfied customers and how

- When the bearing assembly is not held in place by the fit between the shaft, the sleeve and the bearing, all metric bolts in the bearing assembly need to be torqued correctly and LOCKTITE must be used. This practice ensures that the bearing assembly does not spin on the shaft. If your bearing is slipping on the screw bushing and/or the screw bushing is slipping on the shaft, the bolts holding the plate that is pressing against the bearing inner ring are the wrong type, wrong torque, or both.
- Bearing lubrication can have a significant impact on the operation of bearings and machinery, especially in contaminated environments. For slurry pumps, a highly stable EP grease is the best option, preferably with a Bentone base, which is suitable for antifriction bearing lubrication at temperatures from 0°F to +300°F.
- Maintenance and relubrication are also vital to the life of bearings. For screw pumps that operate continuously, monthly relubrication is recommended as is monthly preventative maintenance. During the relubrication process, check the grease for oiliness and dirt contamination and adjust the relubrication schedule accordingly.
- Operating temperatures can be used as a guide for lubrication – a sustained temperature drop could indicate insufficient lubrication prior to the addition of grease, while a noticeable rise in temperature could indicate excess grease.

An application such as this demands not only correct installation and maintenance procedures, but the right product choices. To achieve the highest level of contamination resistance NSK engineers recommended the Tough Steel series, designed to resist contamination when operating in some of the harshest industrial environments. The NSK team trained the customer's staff on correct installation and maintenance, and supervised the change-out. After the switch, the company realized more than \$53,000 in savings and gained valuable employee knowledge.

For more information on pump bearing reliability and to maximize your uptime visit www.nskmaxuptime.com today!

they've taken advantage of NSK products and solutions.

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FEATURED PRODUCT



SHAKER SCREEN BEARING

Vibrating equipment bearings from NSK are engineered specifically to withstand the high speed, shock loading, misalignment and marginal lubrication conditions typical of vibratory equipment.

WHY CHOOSE NSK?

-  Increased fatigue life and reduced wear
-  A robust cage prevents cage fracture
-  Increased limiting speed
-  More reliable fits and reduced risk of seizure
-  Extended life under conditions with hard particle contamination

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SUCCESS STORY

CASE STUDY

ACTUAL COST SAVINGS

\$205,169.12

A major mining company experienced costly bearing failures on an important piece of process equipment. The company requested NSK's assistance to reduce unexpected downtime and address increased productivity requirements.

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