



Location:
North America-based
cement plant

Industry:
Cement

Problem:
Bearing failures and
shortened life

Solution:
Rex 6000 Series SHURLOK
Adapter Mounted Roller
Bearings

Results:
Adapter Mounted Roller
Bearings solved problems
that were causing bearing
failure. The product
simplified the installation
process, as well.

Summary:
Rex 6000 Series SHURLOK
Adapter Mounted Roller
Bearings prove they can stand
up to the dust and vibrations
in the tough environment of a
cement plant.

Rex 6000 Series SHURLOK Adapter Mounted Roller Bearings Stand Up to Cement Dust and Vibration at Cement Plant

At an Indiana cement plant, bearing failures on a high speed fan that moved air through the rotary kiln were causing unnecessary downtime. Replacing the bearings with Rex® 6000 SHURLOK® Adapter Mounted Roller Bearings solved the problems that were causing bearing failure and simplified installation.

The fan is driven by a 150 HP motor and runs at 2000 to 2500 RPM. The pitch diameter of the fan blade is 54 inches, with its 2-15/16 inch straight shaft supported on 20 inch bearing centers. The previous bearings were failing in three months or less because of several conditions. Vibration inherent in the application caused the bearing's lock nut to back off, and the loose mounting caused premature failure, even though the customer monitored the vibration weekly. Problems stemming from installation also were an issue. First, it was difficult to install the previous bearings' split housings correctly because of tight spacing where the field tolerances had to be set. This led to running conditions that were often either too tight or too loose, resulting in shorter bearing life. Second, fine cement particulates found throughout the operation would end up in the bearing during assembly and installation. This decreased the life of the lubricant and further shortened bearing life.

New Bearings Meet the Challenges

The customer selected Rexnord SHURLOK Adapter Mounted Roller Bearings for the application because they incorporate features that eliminate many of the problems associated with the fan application. Their single-housed design with factory-preset clearances and lubrication made onsite adjustment unnecessary

and avoided exposing the lubricant to cement dust. The bearings also feature an innovative tapered sleeve design that provides up to 25 percent greater shaft grip than other adapter sleeve bearings and allows for better shaft grip in the plant's vibratory application. The bearings also incorporate Spyglass™ Optical Strain Sensor (OSS) technology, which provides instant feedback during installation to achieve optimal shaft grip.



Large fan at cement plant in Indiana moves air through a rotary kiln. Bearing failures from vibration and contamination led to replacing them with Rex 6000 SHURLOK Adapter Mounted Roller Bearings.



Previous bearing was a split housing that had to be assembled onsite, allowing cement dust to contaminate the lubricant. Its lock nut would loosen because of fan-induced vibration, leading to premature failure.