NSK CASE STUDY

INDUSTRY

QUARRY, MINING & CONSTRUCTION

APPLICATION

VIBRATING SCREEN

COST SAVINGS: $61,340

A quarrying customer in Central America appealed to NSK experts to improve the operating life of vibrating screen bearings, failing at 6 month intervals and imposing 24 hours of maintenance downtime due to the remote access.

The combination of punishing loads and severe contamination inherent to this application presented the challenge for which NSK's VS bearings with Tough Steel technology are ideally suited.

As anticipated significant gains were achieved in bearing operating life, thereby reducing bearing consumption and maintenance intervals with the critical cost of production stoppage.

KEY FACTS

- The bearings were subjected to heavy loads, shock loads and vibration
- The operating environment was severe, with particle and water contamination ever-present
- The current bearings selected were experiencing failure every 6 months
- Production stoppages of more than 24 hours occurred as a result of every bearing failure

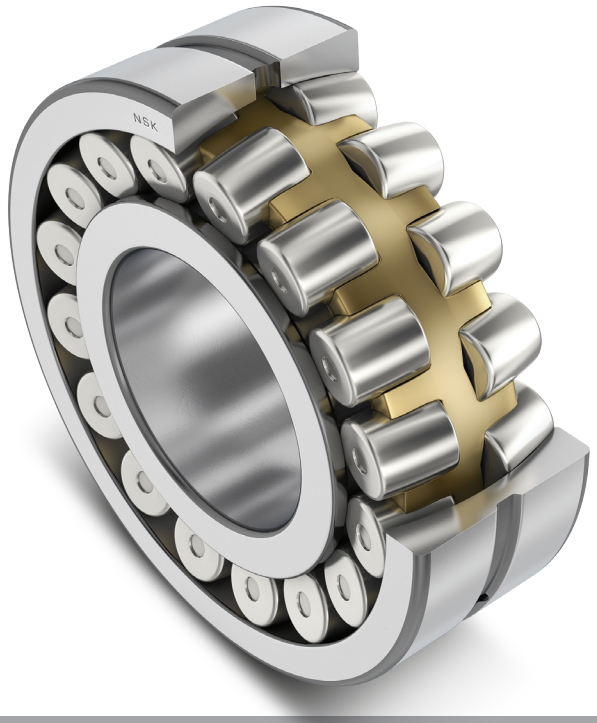
VALUE PROPOSALS

- NSK engineers evaluated the application, the operating conditions and the damaged bearings, seeking to increase the reliability of the application
- As a result of the pivotal role contamination played in bearing failure, NSK recommended replacement with our VS series bearings including Tough Steel technology
- The expected lifetime of bearings was tripled
- This improved not only the reliability of the machine, but produced significant savings in lost production

PRODUCT HIGHLIGHTS

NSK's long-life VS series spherical roller bearings are engineered specifically to contend with high speeds, shock loads, misalignment and frequent vibration to deliver robust, smooth running, long-life performance. For severely contaminated service conditions, NSK offers VS series spherical roller bearings with Hi-TF and Super-TF long-life material options.

- Optimized, high capacity internal design
- Heavy-duty, wear resistant machined brass cage delivers superior roller guidance and controlled roller skew
- Special dimensional tolerances minimize vibration during operation
- Special internal radial clearance reduces heat generation, improving lubricant life
- Advanced raceway surface finish minimizes sliding contact in high load zones and facilitates better lubricant film formation
- Long-life Hi-TF and Super-TF steel options deliver higher toughness and longer bearing life in severe operating conditions



ANNUAL COST-SAVING BREAKDOWN

BEFORE	COST	NSK SOLUTION	COST
Product Cost	$8,850	Product Cost	$3,275
Engineering	$1,150	Engineering	$385
Loss of Production	$82,500	Loss of Production	$27,500
Total	**$92,500**	**Total**	**$31,160**
		TOTAL COST SAVING	$61,340

YOUR PARTNER FOR MACHINE OPTIMIZATION

Our AIP Added Value Program is based around a simple proposition: 'improvement pays'.
By working with you throughout the AIP Value Cycle, we will help you achieve improvements in machine reliability, productivity and performance, all of which carry a tangible and measurable cost benefit – and we have the tools to prove it! That's what we mean by **improvement pays**.

aip
NSK experts