

Success Story

Industry: Cement

Application: Concrete (sett) thickener

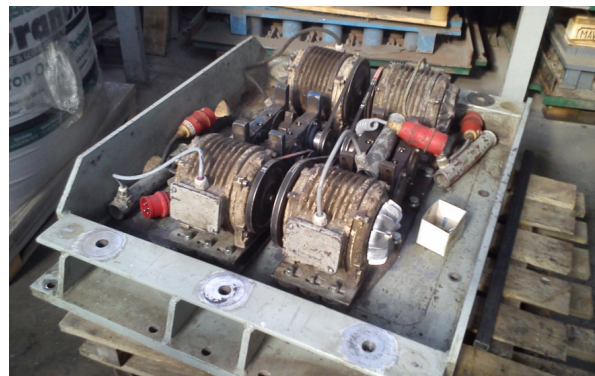
Cost Savings: € 32 100

Introduction

A paving producer in Poland was experiencing frequent breakdowns due to bearing failures in a vibrating thickener machine. The bearings were mounted in an electric motor which supported unbalanced weights providing the vibration. In a period of 4 months the customer experienced 10 failures and each time it took 2 hours to replace the bearings. The existing bearings were experiencing grease leakage and high operating temperatures in excess of 110°C. NSK engineers performed an application review and recommended that the existing shielded bearings be replaced with NSK high integrity fluoride rubber contact seals.

Key Facts

- Concrete (sett) thickener
- High temperature and vibrating conditions
- Grease leakage and high temperature identified as cause of bearing failure
- NSK solution: Deep Groove Ball Bearings with high temperature fluorine DDU seals and special material rings with increased clearance
- Extended lifetime resulted in zero maintenance requirement after NSK bearings were fitted
- Cost saving based on reduced failures and minimum maintenance requirement



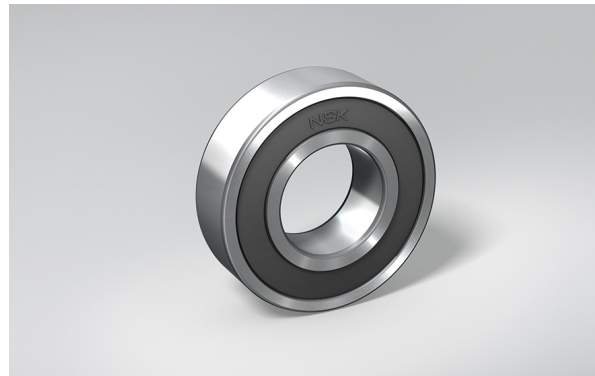
↑ Vibrating Thickener

Value Proposals

- The customer experienced many failures in a vibrating motor application. NSK engineers performed a failed bearing analysis which showed grease leakage and high operating temperatures as the cause
- An application review showed that the existing shielded deep groove ball bearings were inadequate. NSK recommended high temperature contact seals in combination with special material rings and C3 clearance
- A trial was conducted on the NSK options and the results showed zero failures in the second 4 months period
- This resulted in a significant reduction in maintenance costs, improved productivity and zero lost production providing a large cost saving for the customer

Product Features

- Steel Cage
- Heat stabilised rings
- C3 Internal clearance
- High temperature grease
- High performance in contaminated environment
- Temperature stability: up to 150°C
- Longer bearing life through superior seal performance (Viton® Seals)
- Reduced noise level "E" class for electrical applications



↑ High Temperature Sealed Deep Groove Ball Bearings

Cost Saving Breakdown

Before	Cost p.a.	NSK Solution	Cost p.a.
 Regular bearing failure - up to 20 per 8 months season	€200	No bearing failures within a 4 months season	€100
 Maintenance: 20 electric motor à 100 € each	€2.000	No maintenance within a 4 months season	€0
 Lost in production per year: 40 hours à 750 € each downtime	€30.000	No lost of production within a 4 months season	€0
Total Costs	€ 32 200		€ 100