Success Story

Industry: Semiconductor

Application: Band Saw

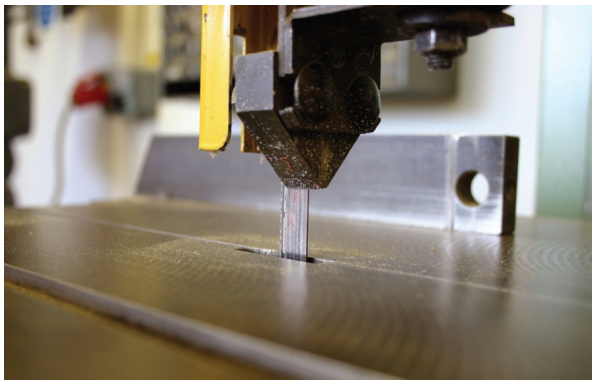
Cost Savings: 9,553 euros

Introduction

A customer experienced failures in a silicon saw application. As a result of the facility clean environment requirements, lubrication was being washed out of the bearings and silicon particles were entering the raceways causing bearings failures to occur. Bearing failures were occurring on 4 separate machines utilizing a total of 384 bearings per year. NSK proposed to replace the bearings with Deep Groove Ball Bearings using Molded-Oil lubrication.

Key Facts

- 4 silicon saw machines
- Customer was using a double sealed bearing with Standard lubrication
- Due to wash down the lubrication was being washed out of the bearing, causing lack of lubrication. Silicon particles were also entering the bearing causing damage and eventually failure
- NSK solution: Replace bearings with NSK's Molded-Oil Deep Groove Ball Bearings
- Number of necessary bearings was reduced in half from 384 to 192 per year



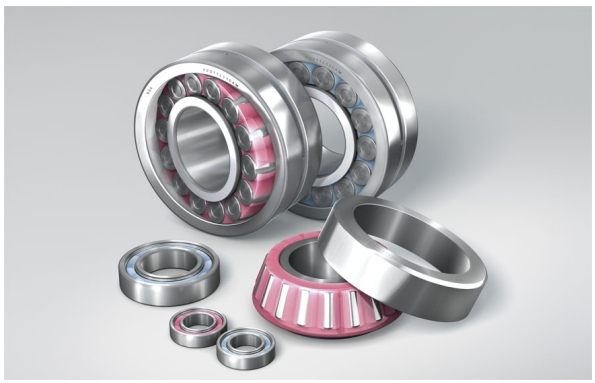
↑ Band Saw Machine

Value Proposals

- NSK performed an Application Review and found out that the grease wash out and silicon particle contamination in the bearings were causing bearing failures
- NSK engineers proposed the use of Deep Groove Ball Bearings with double seals and NSK's Molded-Oil
- With the use of Molded-Oil the bearing usage was reduced in half from 384 per year to 192 per year leading to a cost saving

Product Features

- Molded-Oil provides continuous supply of lubrication oil.
- Grease-free property with no oil refilling keeps operating environments clean.
- Operating life more than twice as long as grease lubrication, in water or dustcontaminated environments.
- Achieves extended maintenance-free performance as Molded-Oil provides a continuous supply of lubricant.
- Available in ball bearing, spherical roller bearing and tapered roller bearings types.
- Contact-seal type available in standard inventory for ball bearings.
- Available for high speed applications.



↑ Molded-Oil bearings

Cost Saving Breakdown

Before		Cost p.a.	NSK Solution	Cost p.a.
	Bearing replacement costs:- 4 machines: 384 bearings x 48€	€ 18.432	Bearing replacement costs:- 192 bearings x 48€	€ 9.216
	NSK Application Engineering time	€ 337	No Engineering time needed	€ 0
Total Costs		**€ 18.769**		**€ 9.216**