

Success Story

Industry: Paper

Application: Paper Tinting Machine Rollers

Cost Savings: € 51 378

Introduction

A Paper manufacturer in the UK was encountering repeated failures of bearings within a Tinting Machine. The machine is operated once a month and each time fails to function due to seized bearings from the previous run. The bearings required changing before a new run could take place, resulting in four hours loss of production. An Application Review by NSK determined the failure was caused by ingress of ink. NSK recommended replacing the standard bearings with Stainless Steel Molded-Oil bearings with DDU seals, which are designed to perform well in wet applications. Regular monitoring of the application showed the bearings operated for 12 months without seizure, resulting in reduced maintenance and no lost production costs.

Key Facts

- Tinting machine
- Ingress of ink causing standard bearings to fail prematurely
- Bearings replaced monthly
- 4 hours lost production and maintenance time per month
- NSK solution: Stainless Steel Molded-Oil bearings
- Resultant performance increased bearing life to 12 months
- Paper Tinting Machine Rollers Molded-Oil Bearings



↑ Paper Tinting Machine Rollers

Value Proposals

- The customer was experiencing many failures in a Tinting Machine. NSK engineers performed a Failed Bearing Analysis which concluded ingress of ink as the cause of premature bearing failure
- An Application Review showed that the existing sealed Deep Groove Ball Bearings were inadequate
- NSK recommended using stainless steel Molded-Oil deep groove ball bearings with DDU seals to prolong bearing life
- The new bearings were installed and monitored with no failures for 12 months
- This resulted in a significant reduction in maintenance costs, improved productivity and zero lost production providing a significant cost saving for the customer.




Product Features

- Stainless steel for corrosive environments
- 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 dust-contaminated environments
- Contact-seal type available in standard inventory for ball bearings
- Achieves extended maintenance-free performance as Molded-Oil provides a continuous supply of lubricant
- Available for high speed applications
- Available in ball bearing, spherical roller bearing and tapered roller bearing types



↑ Molded-Oil Bearings

Cost Saving Breakdown

Before	Cost p.a.	NSK Solution	Cost p.a.
 Standard bearings	€ 211	Molded-oil bearings	€ 183
 Engineering fitting costs: Initial fitting, planned replacement & breakdown	€ 1.560	Engineering fitting costs	€ 130
 Loss production costs	€ 49.920	No loss production. No incidents reported, bearings still running after 12 months operation	€ 0
Total Costs	€ 51 691		€ 313