

## Success Story

Industry: Quarrying, Mining and Construction

Application: Band Saw

**Cost Savings: € 648 880**

### Introduction

A market leading manufacturer of insulation products for the construction industry had recently completed commissioning of a new automated production line. Production was however reported as being erratic due to repeated failures of bearings used on the blade guide rollers of the band saws. The situation had become critical with daily bearing changes becoming necessary; in some cases bearings were only lasting 3 hours. The impact was costly downtime and increased maintenance. NSK was contacted on behalf of the band saw manufacturer to help identify root cause for the failures and offer solutions.

### Key Facts

- Premature failure of bearings was causing daily machine downtime
- Root cause of failure was due to ingress of contaminant into the bearing internals
- Unplanned machine downtime resulted in loss of production
- NSK solution was to recommend DDU type seals
- Resultant performance reduced bearing changes from daily to 3- 4 months (during planned maintenance schedules)
- Significant improvement on machine efficiency



↑ Saw blade guide rollers - Band Saw Application

### Value Proposals

- NSK engineers inspected the application at the customers site and performed a Failed Bearing Analysis revealing that the bearing failures were due to ingress of contaminant
- The NSK engineering team suggested to use Deep Groove Ball bearings with high performance DDU sealing, using a patented triple lip mechanism
- A trial showed a significant improvement in bearing life and by this a very high cost saving for the customer





## Product Features

- Deep Groove Ball Bearing with double seal DDU
- Contact seal designed for maximum protection against all contaminants
- Patented triple lip mechanism for excellent dust and water protection
- For lower speed and temperature limits where maximum sealing is usually critical
- Constant friction torque
- Good grease retention



↑ NSK DDU Seal - Deep Groove Ball Bearing

## Cost Saving Breakdown

Before	Cost p.a.	NSK Solution	Cost p.a.
 1/3 of bearings changed daily	€ 16.930	Complete bearing sets Changed 4 times per year During planned maintenance	€ 1.060
 Replace bearings at band saws Part bearing sets only 3 band saws 4 times per week	€ 24.320	Installation of bearings on 3 band saws	€ 380
 15 minutes per bearing 3 band saws (part bearing sets) 4 times per week	€ 607.800	No unplanned downtime	€ 0
 Damaged saw blades	€ 1.270	No bearing failure causing saw blade damage	€ 0
<b>Total Costs</b>	<b>€ 650 320</b>		<b>€ 1 440</b>