

## Success Story

Industry: Food and Beverage

Application: Aluminium Can Manufacturer

**Cost Savings: 240,000 euros**

### Introduction

The world's largest can manufacturer (soft drinks, isotonic drinks, beers, etc.) was experiencing regular, unexpected, production stoppages due to premature failure of the bearings fitted to the spray head inside coating machines. This was causing significant disruption to production and high downtime costs. NSK conducted a full evaluation of the application including grease analysis and found that the bearings were seizing due to grease being ejected from the bearing by high pressure air that was needed for the process. NSK proposed its non-contact VV seals together with a change to bearing geometry resulting in good grease retention and a dramatic increase in bearing life.

### Key Facts

- High volume can production line
- Repeated problems with spray head spindle bearings
- Bearing seizure resulted in significant downtime costs
- NSK grease and bearing analysis showed lubricant ejection caused by inadequate sealing
- Machine design required that air is passed through the bearings
- NSK proposed VV Seals and C3 internal clearance deep groove ball bearings
- These have good grease retention properties whilst allowing air flow through the bearing
- Bearing life increased from 7 to 110 days operation
- Large cost saving generated by improving production efficiency



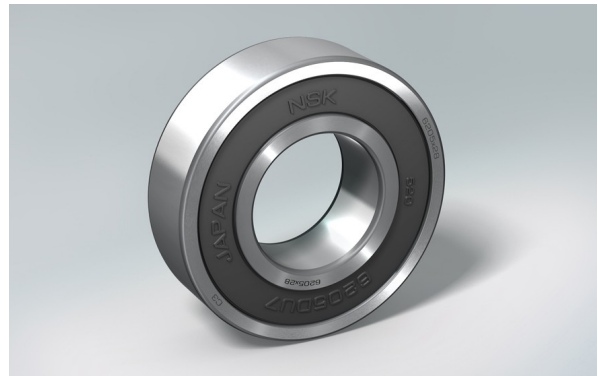
↑ Aluminum Beverage Cans

### Value Proposals

- Investigation of the failed bearings showed that they had failed due to lack of grease
- An application analysis discovered that the high pressure air that is needed for the process was passing through the bearings and the existing seal was not retaining the grease (ZZ Shields)
- NSK proposed a trial with its none contact VV sealed deep groove ball bearings with C3 clearance
- This proved successful as the VV seal has excellent grease retention capabilities
- Bearing lifetime was increased from 7 days to over 110 days when routine maintenance took place. Customer benefited from increased productivity and reduced maintenance costs resulting in a €240 K cost saving.

## Product Features

- C3 Internal clearance
- W Seals
- -This innovative design seals effectively without increasing
- either torque or operating temperature
- -The non-contact lip design reduces drag in the bearing - an
- important advantage where power loss is critical
- - Longer bearing life through superior seal performance
- - Excellent grease retention and effective distribution to maintain performance
- E class (noise level): Reduced noise level class for electrical applications
- High performance in contaminated environment
- Low torque bearing design



↑ WV - Sealed Deep Groove Ball Bearing

## Cost Saving Breakdown

Before	Cost p.a.	NSK Solution	Cost p.a.
 Cost Saving related to extended product life	€150.000		
 Cost Saving due to downtime and production loss reduction	€90.000		
<b>Total Costs</b>	<b>Before</b>		<b>€240.000</b>