



**Customer**  
Steel manufacturer

**Industry**  
Steel Manufacturing

**Application**  
Sheet and tin mill –  
brush rolls

**Rexnord Solution**  
SHURLOK® Bearings

**Total Savings**  
\$160,077

For a detailed cost analysis for your application, contact your local Rexnord Representative.

## SHURLOK bearings slash costly downtime at steel manufacturer.

### Challenge

A major steel manufacturer was using SAF-style bearings to support the shaft ends on their scrubber/brush rolls. These rolls are a critical part of the mill's quality manufacturing process for sheet metal, but routinely needed to be taken out of service to be ground and resurfaced. This process meant dismantling and re-installing the SAF-style bearings, which caused multiple problems during shutdown:

- Bearings were time-consuming to install correctly because of the multiple components involved in assembly.
- Improper installation led to premature bearing failure, causing many hours of unplanned downtime.
- Bearings left indentations and scuff marks on the rolls' shaft ends, which meant extra time and money to build up and repair the shafts for proper tolerance and fit.

### Rexnord Solution

Rexnord SHURLOK bearings replaced all brush roll bearings at the mill. Even though the initial costs of Rexnord bearings were similar to the competitor's product, the SHURLOK bearings ultimately delivered the best solution at the highest value.

- **More uptime and less bearing failure.** Since 27% of premature bearing failures are caused by improper mounting, Rexnord recommended the SHURLOK bearing because of its Spyglass™ and Optical Strain Sensor technology. This Spyglass window informs the installer when the correct tightness is achieved through a color change, taking the guesswork out of installation.
- **Savings in maintenance and labor costs.** The SHURLOK bearing is typically four times faster to install and remove, which means savings in labor costs. SHURLOK will not damage expensive roll shafts at the bearing surface, and can be easily dismantled and reused after roll replacements.
- **Extended bearing life.** Rexnord bearings come with optional seal caps and covers that are easily installed. No open turning shafts are permitted at the U.S. Steel mill, so the seal caps and covers provide optimal sealing for these bearings to extend their life.

### Rexnord Solutions and Savings in Action

Although the initial cost of the competitor's product was similar to the SHURLOK bearing, the total cost of ownership was significantly reduced, making it well worth the effort to change to SHURLOK bearings. SHURLOK is continuously helping to save time and money in: installation, disassembly, replacement cost, maintenance and downtime. SHURLOK's benefits are standard on every bearing, and the steel mill does not have to stock any spare parts. The success of Rexnord bearings has spread throughout the mill, which has led to SHURLOK bearings being used on various applications within the mill.



## Calculating Total Cost of Ownership (TCO)

Rexnord worked with the customer to determine their current product or unit costs for:

- The amount of time required to perform a bearing replacement
- Labor rate for each activity
- Cost of parts for each activity
- The replacement frequency of each component
- The replacement frequency during unplanned downtime
- Unplanned downtime costs (dollars per hour)

## Cost Analysis Breakdown

### Acquisition Costs

Cost per bearing

Current product	\$585
Proposed product	\$720
<b>Total Savings</b>	<b>(\$135)</b>

### Planned Maintenance Costs

The Rexnord formula for calculating planned maintenance costs =

- Number of bearings replaced x cost per bearing
- + Frequency of bearing replacement x labor rate x time spent per bearing
- + Additional material costs x frequency x labor rate

Current product	\$17,360
Proposed product	\$14,862
<b>Total Savings</b>	<b>\$2,498</b>

### Unplanned Costs

The Rexnord formula for calculating unplanned costs =

- Unplanned downtime due to bearing failure x operation downtime cost per hour
- + Number of bearing failures x cost per bearing
- + Number of bearing failures x labor rate x time spent per bearing

Current product	\$165,800
Proposed product	\$8,086
<b>Total Savings</b>	<b>\$157,714</b>

**Total Cost of Ownership Savings: \$160,077**