



Customer
Cement producer

Industry
Cement

Application
Cement clinker drag conveyor

Rexnord Solution:
Rex Hard-Faced Welded Steel Chain

Total Annual Savings
\$236,730

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

Hard-Faced Welded Steel Chain Saves Over \$236,000 for Cement Producer

Challenge

A competitor's drag conveyor chain needed to be taken out after only one year of service and had cost a cement producer tens of thousands of dollars in lost production and downtime. The competitor's chain had begun failing just three months after initial installation in this hostile cement clinker application.

- The nature of cement production — corrosive, abrasive and thermally aggressive — is always a challenging environment for power transmission products.
- On this drag conveyor, the producer was regularly experiencing chain failures related to excessive, premature pin and bushing wear.
- This particularly difficult application called for a unique product with specific attributes.

Rexnord Solution

Rexnord provided the cement producer with Rex® Hard-Faced Welded Steel Chain, which meets the intense performance expectations of this cement clinker application:

- **The chain pins are induction-hardened**, using a proprietary process which accurately controls the metallurgy of the pin, creating hardness features which allow for both shock-loading strength and wear resistance in hostile environments.
- **Bushings used in the chain are through-hardened**, using a specific process under strict manufacturing conditions, yielding the greatest wear resistance.
- **Surface "hard-facing" creates a super-hard wear surface**, specially designed for severe applications such as cement clinker.



Rex Hard-Faced Welded Steel Chains are designed for hostile environments, such as drag conveyors (shown above) in cement clinker applications.

Rexnord Solutions and Savings in Action

Since installing this Rexnord solution, the customer:

- Has significantly reduced maintenance costs, eliminated downtime and increased production.
- Has experienced two years of successful chain operation. A technical review of the chain was performed at the end of this period, projecting an additional five years of life.
- Achieved an operational payback period of two months.

Calculating the Annual Total Cost of Ownership (TCO)

Rexnord worked with the customer to determine the current costs compared to the TCO using the Rexnord solution. Factors considered were:

- Acquisition costs.
- Installation costs.
- Maintenance costs.
- Lost production costs.

Annual Cost Analysis Breakdown (in \$USD)

Acquisition Costs	Purchase Price	Expected Life (years)	Units Installed	Total
Current welded steel chain	\$72,300	1	1	\$72,300
Rex Hard-Faced Welded Steel Chain	\$99,900	5	1	\$19,980
Annualized Savings				\$52,320

Installation Costs	Installation Cost	Installation/Year	Units Installed	Total
Current welded steel chain	\$832	1	1	\$832
Rex Hard-Faced Welded Steel Chain	\$832	0.2	1	\$166
Annualized Savings				\$666

Maintenance Costs	Events/Year	Maintenance Resources	Maintenance Cost/Event	Total
Current welded steel chain	36	2 people	\$104	\$3,744
Rex Hard-Faced Welded Steel Chain	-	-	-	\$0
Annualized Savings				\$3,744

Lost Production Costs	Events/Year	Downtime/Event (hours)	Downtime Cost/Hour	Total
Current welded steel chain	36	1	\$5,000	\$180,000
Rex Hard-Faced Welded Steel Chain	-	-	\$5,000	\$0
Annualized Savings				\$180,000

Rexnord Solution Annual Savings Summary

Total current cost	\$256,876
Total proposed cost	\$20,146
Total savings	\$236,730
TCO reduction percent	92%

Total Cost of Ownership Annual Savings: \$236,730