



Customer
Cement producer

Industry
Cement, Aggregate & Construction

Application
Cement clinker bucket elevator

Rexnord Solution:
Rex Engineered Steel Bucket Elevator Chain

Total Annual Savings
\$43,027

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

Cement Producer Saves Over \$43,000 with Rex Engineered Steel Chain

Challenge

A cement producer was using a competitor's engineered steel chain on a cement clinker bucket elevator, an environment that is very abrasive, corrosive and thermally hostile. The competitor chain lasted two years before its useful life ran out.

- Cement clinker production is one of the most difficult environments for power transmission components to provide long performance life.
- The producer was unaware of alternate chain solutions that could improve operation.

Rexnord Solution

Rexnord is a premier solution provider for this type of application and presented the customer with Rex® Engineered Steel Bucket Elevator Chain, designed with the following attributes to meet intense performance demands:

- **Through-hardened chain bushings** are manufactured under strict conditions, using a process which yields the greatest resistance against wear.
- **Special induction-hardened pins** are made using a proprietary process that precisely and accurately controls the metallurgy of the pin, as well as creates hardness features in the pin which allow for both shock loading strength and hostile-environment wear resistance.
- **High interference press fits between the pin and sidebars** yield superior fatigue resistance in the chain.

Rexnord Solutions and Savings in Action

Since installing this Rexnord solution, the customer:

- Expects a total performance life of four years, based on wear at a one-year assessment of the new chain.
- Has significantly reduced maintenance costs.
- Has eliminated downtime and increased production.
- Achieved an operational payback period of four months.



Rex Engineered Steel Chain performs in demanding bucket elevator applications.

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 engineered steel chain | \$42,400 | 2.7 | 1 | \$15,880 |
| Rex Engineered Steel Bucket Elevator Chain | \$56,500 | 4 | 1 | \$14,125 |
| Annualized Savings | | | | \$1,755 |

| Installation Costs | Installation Cost | Installation/Year | Units Installed | Total |
|--|-------------------|-------------------|-----------------|--------------|
| Current engineered steel chain | \$5,400 | 0.38 | 1 | \$2,052 |
| Rex Engineered Steel Bucket Elevator Chain | \$5,400 | 0.25 | 1 | \$1,350 |
| Annualized Savings | | | | \$702 |

| Maintenance Costs | Events/Year | Maintenance Resources | Maintenance Cost/Event | Total |
|--|-------------|-----------------------|------------------------|----------------|
| Current engineered steel chain | 0.5 | 7 people, other costs | \$17,140 | \$8,570 |
| Rex Engineered Steel Bucket Elevator Chain | 0 | 0 | \$0 | \$0 |
| Annualized Savings | | | | \$8,570 |

| Lost Production Costs | Events/Year | Downtime/Event (hours) | Downtime Cost/Hour | Total |
|--|-------------|------------------------|--------------------|-----------------|
| Current engineered steel chain | 0.5 | 40 | \$1,600 | \$32,000 |
| Rex Engineered Steel Bucket Elevator Chain | 0 | 0 | \$0 | \$0 |
| Annualized Savings | | | | \$32,000 |

Rexnord Solution Annual Savings Summary

| | |
|-----------------------|----------|
| Total current cost | \$58,502 |
| Total proposed cost | \$15,475 |
| Total savings | \$43,027 |
| TCO reduction percent | 74% |

Total Cost of Ownership Annual Savings: \$43,027