

CASE STUDY

Pickle Line and Tandem Cold Mill : Work Roll Bearing Life Extended and Flaking Eliminated

QUAKERTEK™ CS 4602-EP

The Challenge

The work roll bearings on the PL-TCM (Pickle Line & Tandem Cold Mill) of a state-owned Chinese steel company, were failing prior to the expected 6 month lifetime:

- These failures were resulting in high maintenance costs from bearing changes and repairs
- The steel company was looking for a grease that could extend the bearing life to at least 6 months

The Solution

Quaker Houghton proposed trialing QUAKERTEK™ CS 4602-EP to:

- Extend bearing life and reduce unplanned downtime resulting in reduced maintenance costs
- Promote mill reliability and productivity

For the trial, some tapered roller bearings were lubricated with the current grease, including the roll necks, and some bearings were lubricated with QUAKERTEK™ CS 4602-EP, including the roll necks.

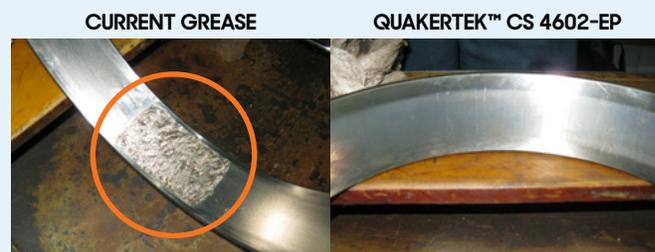
The Benefits

After 3,000 hours of operation (approximately 6 months) the bearings were checked. The QUAKERTEK™ CS 4602-EP bearing had no obvious damage on the raceway or roller surface, while the current grease had a large flaking zone on the raceway of the outer ring.

Bearing with QUAKERTEK™ CS 4602-EP



Raceway of Outer Ring



The Product

QUAKERTEK™ CS 4602-EP is a unique lubricating grease that utilizes an entirely new approach in thickener technology. It provides exceptional lubricity, thermal stability, rust protection, and water washout resistance. Its mechanical stability surpasses conventional greases and makes it ideal for use in high load applications. It contains no heavy metals or other environmentally undesirable components. QUAKERTEK™ CS 4602-EP is an outstanding multipurpose grease with no significant shortcomings.

- Resists water washout
- Excellent corrosion protection
- Excellent shear stability

Application

- Concaster
- Rolling mills
- Steel-to-Steel contact sliding bearing
- Vibrating screen
- Crane

Properties

TYPICAL PROPERTIES	TYPICAL VALUES	UNIT
Appearance	Tan	
Soap Type	Calcium Sulfonate	
Base Oil viscosity at 40°C	485	cSt
NLGI Grade	2	

