TIMKEN

WEAR-RESISTANT COATINGS ON TIMKEN® TAPERED ROLLER BEARINGS DELIVER 2.5 TIMES MORE BEARING SERVICE LIFE

CHALLENGE

A mining equipment rebuilder in Santiago, Chile, sees a lot of early bearing damage in the wheel end systems of mining haul trucks. At one copper mine in particular, heavy contamination caused marginal lubrication, which led to surface peeling. The rebuilder wanted to improve the system performance of these trucks for this customer – as well as others.

TIMKEN SOLUTION

The rebuilder began applying Timken® engineered surfaces to the rollers of tapered roller bearings in wheel end systems.

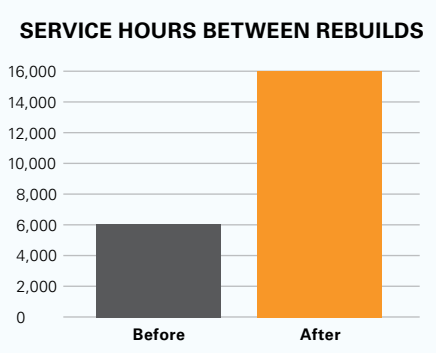
Our engineered surfaces enhance bearing performance by providing:

- Debris resistance.
- Reduced friction and torque.
- Reduced component scuffing and smearing damage.
- Increased life in thin film lubrication.
- Decreased false-brinelling wear and oil-off protection.

They feature a thin film, nano-composite, metal-carbide matrix design that provides extremely hard and ultra low-friction near surface properties. The diamond-like properties of these coatings inhibit micro-welding and adhesive wear at the roller and race interfaces, significantly minimizing metal-to-metal contact.

RESULTS THAT MATTER

After installing our new bearing solution, the copper mining customer experienced an average increase in bearing service life from 6,000 service hours to more than 16,000 service hours between rebuilds. Our wear-resistant coating more than doubled the service life of the mining haul truck wheel end rebuilds, and the rebuilder now includes our engineered surfaces as part of its proprietary rebuilding procedure.



The Timken team applies their know-how to improve the reliability and performance of machinery in diverse markets worldwide. The company designs, makes and markets bearings, gear drives, automated lubrication systems, belts, brakes, clutches, chain, couplings, linear motion products and related industrial motion rebuild and repair services.