

# NTN ULTAGE® Spherical Roller Bearings Increase Tonnage on Continuous Caster

A major US-based hot strip mill was experiencing abnormally short bearing life on their continuous slab caster. Repetitive segment roll failures caused costly downtime at a rate of over \$10,000 per hour and affected downstream operations.

NTN's engineering and sales support team ran a comprehensive diagnosis of the mill's segment rolls and discovered that the competitor's bearings were only lasting an average of 100,000 tons due to improper bearing design and fitment that could not withstand the high temperatures and contamination of continuous casting.

## The NTN Solution

NTN's team concluded that the plant needed to change the bearing fits and radial internal clearance and prescribed NTN ULTAGE spherical roller bearings with an internal radial clearance of C4 and improved bore and OD fits. ULTAGE spherical roller bearings are designed to withstand the heat and contamination associated with continuous casters, promoting a long calculated life and reducing the need for replacement. Couple these factors with one of the highest load capacity ratings in the industry and you have a bearing solution designed to last, no matter the environment.

## The Result

The NTN solution lasted two times longer! Our spherical roller bearings successfully ran for 200,000 tons of metal production compared to the competitor's bearing that averaged 100,000 tons.

The increased bearing life, reduced maintenance and decreased cost resulted in over \$500,000 in savings over six months. The mill personnel were so satisfied by the improved performance on the two caster segments that they installed NTN ULTAGE bearings on all the remaining segments.



## VALUE ADDED BREAKDOWN

**INCREASED BEARING LIFE**

**\$62,991**

**MAINTENANCE REDUCTION**

**\$240,000**

**REDUCED ACQUISITION COST**

**\$65,328**

**UPTIME IMPROVEMENT**

**\$150,000**

**DOCUMENTED COST SAVINGS**

**\$518,319**

Cost000474



# ULTAGE<sup>®</sup>

## SPHERICAL ROLLER BEARINGS

Combining premium-grade materials, optimized design and precision manufacturing, ULTAGE is the new generation of high-performance bearings from NTN that delivers unmatched service life, the highest limiting speeds and the best load capacities on the market to maximize the productivity of your equipment.

ULTAGE spherical roller bearings combine cutting-edge product research, premium-grade materials, and an optimized internal and external design to greatly extend bearing life. The result is greater profitability for our customers thanks to improved uptime and productivity.

- **Made from premium-grade steel and larger rollers**, ULTAGE SRBs provide a 65% increase in capacity compared to a conventional bearing, resulting in up to 5 times longer service life. In addition, ULTAGE SRBs provide up to 35% greater basic static load rating compared to conventional bearings.
- **ULTAGE SRBs contain an optimized surface finish** and incorporate high-performance, window-type pressed steel cage without the center guide ring for higher rigidity, stability, and better lubrication flow through the bearing. All these design features allows for a 20% higher limiting speeds when compared to conventional designs, reducing operating temperatures that extend lubrication intervals and keep production lines running longer.
- **Our special heat treatment process** allows for dimensional stability of the bearing up to 200°C (392°F) all while maintaining high hardness. The combination of high temperature stability and high hardness allows the bearing to achieve a longer life, thus reducing down time and increasing production.
- **Manufactured in our state-of-the-art facilities** which maintain consistently tighter tolerances through production, ULTAGE spherical roller bearings feature an optimized design that enables higher loads and faster rotational speeds. Besides allowing machines to run at maximum productivity, the improved design reduces heat generation for extended grease life and improved uptime, compared to conventional bearing designs.



## Beyond Bearings

Training. Installation Support.  
Trouble-shooting. And more.

When you choose NTN, your team is equipped with all the necessary tools and resources to get the job done right. From installation to problem-solving, we'll be there with the hands-on support you need to take on your toughest challenges. This includes extra services such as:



### Technical Training Unit

On-site, mobile training unit offering specialized, hands-on instruction from NTN engineers



### Product Training School

Three days of in-depth instruction from NTN engineers at headquarters



### eKnowledge

WEB-BASED TRAINING PROGRAM

Six online product training modules covering different bearing types and nomenclature



### NTN Bearing Finder

Customizable search tool featuring exhaustive data sets, comprehensive part interchanges and interactive CAD drawings

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