

NSK

NSK CASE STUDY

INDUSTRY

PAPER, PAPERBOARD AND PULP MILLS

APPLICATION

CALENDER ROLL

COST SAVINGS: \$377,225 (5 YEARS)

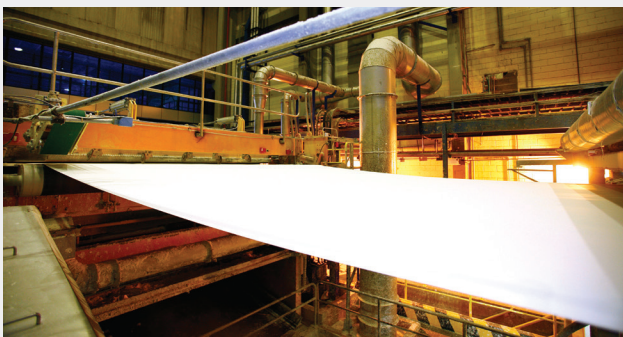
Using a competitor's bearing without carburized inner rings, a paper mill was experiencing failures in their calender roll bearings. Due to inner ring cracking, the mill was experiencing 10 failures annually which required downtime for change outs and additional maintenance time.

KEY FACTS

- › Application: Calender roll (Country: USA)
- › End-product: paper
- › Number of machines: 1
- › Status: still in operation after 5 years
- › Problem: High bearing failure rate
- › Objective: Decrease change outs and downtime

VALUE PROPOSALS

- › NSK worked with the mill engineer building on successes that we have seen at mills with similar issues.
- › NSK investigated the application as well as inspected the competitor's failed bearings.
- › The use of carburized inner rings in NSK's TL, Tough and Long Life Bearings, was suggested.
- › Bearings were installed and have run 5 years without failure.



Paper Mill

STAY IN MOTION. STAY IN CONTROL.

MOTION
Motion.com

PRODUCT FEATURES



NSK's TL (Tough and Long Life™) Series of Spherical Roller Bearings are specifically designed for dryer rolls in papermaking machinery which operate in extreme high temperature conditions.

- › Innovative chemical composition of steel.
- › Belongs to the Tough Technology™ Series.
- › Special heat treatment process.
- › High strength inner and outer rings.
- › Higher resistance to cracks.
- › Greater resistance to hoop stress.
- › Reduced fracturing of bearing inner rings.
- › Reduced downtime and maintenance costs.
- › Longer life – service life is more than twice that of conventional bearings operating under contaminated conditions.
- › Greater dimensional stability under high temperatures (to 200°C / 392°F).



NSK TL Spherical Roller Bearing

COST-SAVING BREAKDOWN

ISSUE	NSK SOLUTION	SAVINGS
 Downtime	4 hours @\$1,500/hr x 5/yr x 5 years	\$150,000
 Bearing life	Reduced bearing usage from 10 to 5 annually	\$227,225
TOTAL SAVINGS		\$377,225

YOUR PARTNER FOR MACHINE OPTIMIZATION

Our AIP Added Value Program is based around a simple proposition: 'improvement pays'. By working with you throughout the AIP Value Cycle, we will help you achieve improvements in machine reliability, productivity and performance, all of which carry a tangible and measurable cost benefit – and we have the tools to prove it! That's what we mean by **improvement pays**.

