



CASE STUDY

Leading Customer in Steel Industry

From Frequent Failures to Extended Life: Booster Fan Bearings Optimized

The customer was facing **frequent failures of 22216 K CCW33** bearings on the NDE side of the booster fan. Bearings reached **6 mm/s axial** vibration within just 3 days of operation. The last bearing seized due to high temperature within 3 months.

High vibration was consistently observed when fan speed exceeded 1500 rpm.

The **NBC Industrial Application Engineering team** visited the site and conducted a thorough inspection and analysis:

- Vibration spectrum checked, bearings disassembled, and measurements taken for all components.
- Key findings:
 - Shaft was undersized by ~120 microns (68.88 mm vs. h9 tolerance 70 mm), causing creeping and looseness. Shaft build-up carried out to meet specifications.
 - Adapter sleeve thread was loosening along the direction of rotation; recommended inverting sleeve. Adapter sleeve orientation corrected.
 - Locating and non-locating ends were not maintained correctly; corrected installation procedure implemented.

Customer Savings & Benefits:

- **Reduced vibration and seizure** risk during operation.
- Extended bearing life, minimizing unplanned maintenance.
- Improved operational reliability of the booster fan.
- **Cost savings** due to fewer replacements and reduced downtime.