

**9901 ALMASOL<sup>®</sup> SYNTEMP<sup>®</sup> LUBRICANT**  
**MID-WEST STEEL MILL, East Chicago, Indiana**  
**Bearings • SIC 3312 Blast Furnaces and Steel Mills**

- ◆ *Reduced unplanned line downtime*
- ◆ *Reduced grease consumption*
- ◆ *Increased bearing life*
- ◆ *Reduced bearing temperature by 20-40° F*

**CUSTOMER PROFILE**

A Mid-West Steel Mill manufacturing galvanized steel was experiencing repeated Hearth Roll bearing failures due to harsh thermal environment exposure.

**AREA OF INTEREST**

Due to extreme high thermal exposure, the commercial grade grease would harden. If not caught in time, it would carbonize, blocking the supply lines of the automatic lubrication system. This would cause the bearings to fail and shut down the entire production line.

They wanted to reduce bearing failures, expensive unplanned line downtime resulting in associated production loss, excessive grease consumption, and eliminate grease carbonization.

**LE SOLUTION**

Lubrication Engineers Consultant V.C. Vasisth recommended 9901 Almasol<sup>®</sup> Syntemp<sup>®</sup> Lubricant. LE's 9901 is a high temperature, extreme pressure, synthetic, NLGI #2 grease, designed to be water resistant and not melt or separate in low speed bearings.

**CUSTOMER COST SAVINGS**

As the steel travels along the production line it passes through a large Hearth (heating) system which is comprised of 72 rolls, each of which contain one water cooled bearing per side. These bearings are

constantly exposed to high temperatures ranging from 175-450°F (79-232°C). Unfortunately the water system is not very reliable which makes the bearings run hot. A Farval automatic lubrication system is also utilized, but as mentioned earlier, was not properly functioning because the commercial grade grease hardened in the supply line due to the extreme heat.

The maintenance engineer chose to conduct a test on a select number of hearth rolls to determine if LE's 9901 would perform better than the commercial grade grease they were utilizing. In order to closely monitor the performance of LE's 9901, it was applied to the bearings manually rather than utilizing the Farval auto lubrication system.

The test was conducted for approximately 11 months with the following results:

No bearing failures were reported during the test period. Grease consumption reduced from 2,000 lbs to about 200 lbs per year! Most importantly, the bearing temperature was reduced by 20-40 degrees F, increasing the bearing life which has resulted in major cost savings and increased production. In a post performance follow-up, it was found that there has been no Hearth roll bearing failures in 2 years due to lack of lubricant and or lubricant related failures.

Lubrication Engineers would like to thank the Mid-West Steel Mill and LE Lubrication Consultant V.C. Vasisth (pictured) for the information provided to prepare this report.



Based on actual user experience. Individual results may vary. Product used not intended to supersede manufacturer's specifications.

**LUBRICATION ENGINEERS<sup>®</sup> Inc.**

*Leaders in Lubricants*



300 Bailey Ave · Fort Worth, TX · Phone: 800-537-7683 817-916-3200  
FAX: 800-228-1143 817-820-0027 · [www.le-inc.com](http://www.le-inc.com)

LI70590  
12-13-06