

# METALS (USA)

## CONTINUOUS CASTER

### Castrol Molub-Alloy® 6282/460-1 Grease

## ANNUAL SAVINGS: \$40,771



### THE SITUATION

A major steel mill's proximity to a river demanded very high discharge water cleanliness standards for hazardous materials such as heavy metals, benzene and toluene. A competitive product used to lubricate the caster segment bearings contained zinc.

The zinc additives caused problems with EPA and damage to the mill's environmental image. In addition, 20 segments (over 800 bearings) per caster average, were changed each year causing significant parts, labor and downtime costs.

### BEFORE CASTROL

- Annual bearings (parts) cost - \$117,968.
- Total labor cost for bearings replacement - \$72,720.
- **Total parts and labor cost per year - \$190,688**

### AFTER CASTROL

- Annual bearings (parts) cost - \$93,195.
- Total labor cost for bearings - replacement: \$56,722.
- **Total parts and labor cost per year - \$149,917**

### THE SOLUTION

- Molub-Alloy 6282 Zinc-free Grease was developed to meet plant performance expectations and to replace zinc-containing lubricants
- The trial of Molub-Alloy 6282 in caster segments indicated that the new grease was not only environmentally-friendly (zinc-free) but significantly outperformed the previously used grease.
- According to one of the leading bearing manufacturers, bearings with Molub-Alloy 6282, after 21% more heats (2058 vs.1700), were still well within tolerance, had significantly less wear, and no bearing failures. *(See pictures on next page.)*
- This means that performance of the grease is higher and a minimum 21% bearing failure reduction rate has been achieved.

- Castrol Molub-Alloy 6282 zinc-free grease is the right product for Steel Mills with high standards for cleanliness of discharge water regarding the content of hazardous materials such as heavy metals, benzene and toluene.

## RECOMMENDATIONS

Castrol Molub-Alloy 6282 zinc-free grease can be used in several other Steel Mill heavy-duty service applications due to the following advantages:

- Excellent water resistance even in chemically active process water
- High EP and excellent anti-wear properties
- Excellent mechanical stability—helps reduce grease consumption in high volume applications



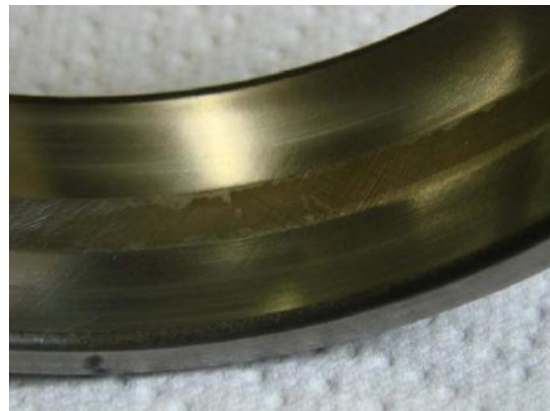
Minimal load zone area of bearing lubricated with Castrol Molub-Alloy 6282 Zinc-free grease.

## CONCLUSION

The customer and Castrol, working as partners, have achieved significant reduction of zinc in discharge water without compromising performance of the equipment.

**Total annual savings per one caster - \$40,771**

After successful trial, the customer has converted the second caster to Castrol Molub-Alloy 6282 zinc-free grease which will double the customer's savings.



The load zone in #4 bearing lubricated with previous grease was almost 360 degrees.



## OTHER POTENTIAL APPLICATIONS

Castrol Molub-Alloy 6282 zinc-free grease can be used in all grease applications in the Caster area and in Rolling Mill bearings due to its excellent high temperature performance and washout resistance.

**Note:** Total annual savings does not include:

- Lost revenue due to the downtime caused by bearing failures
- Avoided EPA penalties
- Improvement of image for being environmentally friendly

Castrol, the Castrol logo, and Molub-Alloy are trademarks of Castrol Limited, used under license.

