Molub-Alloy 6040 Delivers Dramatic Usage Reduction

METALS (TRINIDAD)
ROLLING MILL GREASE LUBRICATION
Castrol Molub-Alloy® 6040/460-1.5
ANNUAL SAVINGS: $62,400

THE SITUATION

A leading steel producer was using an organo-clay based grease for bearing and coupling lubrication in the Rolling Mill (reheat furnace, walking beam bearings, billet push-out mechanism, withdrawal pinch rollers, and Morgan mill couplings).

- Grease was mixed with an oil to prevent grease cooking. This is indication of low working temperature of the grease.
- In applications where process water is present, grease was washed out from the bearings indicating low water resistance.
- Grease running out of bearings due to the significant softening, indicating poor roll stability properties.
- Centrifugal force causes high oil separation making grease unsuitable for coupling lubrication.

BEFORE

- Frequent bearing failures (exact number is unknown)
- Grease leaking from bearings and couplings caused product staining and housekeeping problems
- Grease usage – 4 to 5 drums per month
- Annual grease cost - **$126,144**

AFTER

- No bearing failures.
- No leaking grease. No product staining or housekeeping problems.
- Grease usage – 2 drums per month
- Annual grease cost - **$63,744**

Previous grease would soften and run out of bearings & couplings due to the low centrifugal force resistance and poor roll stability.

Previous grease completely washed out at furnace billet pusher due to low water resistance. Degraded grease caused bearing failure.

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THE SOLUTION

Castrol Application Engineer conducted a detailed survey and identified the causes of frequent bearing failures as listed below:

- Inadequate temperature resistance of the previous grease
- Low water resistance properties of the previous grease
- Insufficient roll stability properties of the previous grease
- High oil separation due to the centrifugal force made the previous grease unsuitable for coupling lubrication

Castrol Molub-Alloy 6040 grease was recommended. This is a high-performance, cost-effective grease that performs well in difficult steel mill applications.

With its very high roll stability and water resistance, Molub-Alloy 6040/460-1.5 has eliminated bearing failures and greatly reduced grease consumption.

CONCLUSION

The replacement of the previous grease with Castrol Molub-Alloy 6040 addressed all the customer's needs.

Exceptional endurance and enhanced corrosion protection resulted in 2-2.5 times reduction in grease consumption and an added benefit of reduced bearing replacements.

Annual cost savings due to the usage reduction alone was $62,400 with further savings generated by reducing bearing cost and replacement labor

Note: This estimate does not include reduced downtime as a result of lower bearing failures.

OTHER POTENTIAL APPLICATIONS

Molub-Alloy 6040 grease was specifically developed for steel mill applications. It may be used in journal and antifriction bearings with extreme environmental conditions such as found in the rolling mill and continuous caster. Molub-Alloy 6040 grease is also ideal for aggressive process water environments.