

# Castrol Grease Proves Successful in Difficult Mill Applications

## METALS (USA)

### STEEL HOT ROLLING MILL

#### Castrol Spheerol® EPLX 460-1\*

**ANNUAL SAVINGS: \$9,120**

#### THE SITUATION

A major steel plate mill was using a low cost grease for their rolling mill lubrication. They used large quantities to ensure proper lubrication and had difficulty pumping it in the cold months.

#### BEFORE

- Aluminum complex grease from “Company F”
- Large quantities in use
- Difficult pumping when cold

#### AFTER

- Castrol Spheerol EPLX 460-1 lithium complex grease
- Reduced total cost
- Easier to pump in cold weather

#### THE SOLUTION

- Castrol developed the Spheerol EPLX 460 grease to provide proper lubrication in areas of high temperature and heavy water wash.
- We tested our grease extensively using the plant’s mill water, as this is much more aggressive than tap water.
- The results showed improvement over the incumbent in a number of areas including base oil viscosity, water washout, roll stability, and EP properties.
- In addition, we tested the greases for compatibility and monitored the conversion closely to ensure no issues.



- Improved pumpability
- Lower total cost

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## RECOMMENDATIONS

The applications in the rolling mill include: mill stand liners, spindles, lathes, run-out table, wrapper rolls, pinch rolls, stripper car, carry-over table, and shear. The lube points are fed from a 6000-gal bulk tank. The lube system has four sections in the mill, all fed from pumps on the bulk tank.

## CONCLUSION

The customer received an excellent steel mill grease at a fair price while seeing benefits of lower total cost and better pumpability.

### Grease Test Results

*Notable improvements include a higher base oil viscosity for greater oil film thickness, much lower mill water washout, and significantly higher EP properties for better bearing protection.*

TEST	Competitor	Castrol Spheerol EPLX 460-1
NLGI Grade	# 1	# 1
Thickener Type	Aluminum Complex	Lithium Complex
Drop Point, °F	> 500	> 500
Base Fluid Viscosities @ 40°C, cSt	280	460
Water Washout with Caster water, % loss	20.6	5.7
Roll Stability w/ 10% mill water, % change	-2.7 ( hardening )	3.6 ( softening )
Four Ball EP Weld, kgf	250	400
Four Ball Wear dia, mm	0.71	0.55
Compatibility	Compatible	Compatible



## OTHER POTENTIAL APPLICATIONS

Spheerol EPLX 460 greases were designed for the harsh conditions of steel mills, including aggressive mill water. They provide proper lubrication at a reasonable cost for higher volume applications.

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