

# METALS (USA)

## CONTINUOUS CASTER LUBRICATION

### Castrol Spheerol® EPLX 460-1 Grease\*

## ANNUAL SAVINGS: \$76,895



### THE SITUATION

A major steel sheet mill challenged Castrol to offer a caster grease that could lower their high usage and improve lubrication while maintaining a competitive price. In addition, they were hopeful the new grease would improve cold temperature pumpability.

The current asphaltic-based grease had been used for many years, and the mill was confident that Castrol could provide newer technology that would improve caster operations and costs.

### BEFORE CASTROL

- Asphaltic-based aluminum complex grease, ISO 220
- High grease usage: 329,333 lbs/yr
- High waste treatment cost
- Long segment clean-up times
- Poor cold temperature pumpability

### AFTER CASTROL

- Lithium complex, non-solids grease, ISO 460 (high load cap)
- Usage reduced by 10.4%
- Waste treatment costs reduced by \$27,000 annually
- Reduced segment cleaning times
- Improved pumpability
- Price maintained competitively

### THE SOLUTION

- Castrol engineers performed a full survey of the caster & grease systems and chose to offer Spheerol EPLX 460-1 grease.
- Performance testing confirmed that Spheerol EPLX 460-1 was the correct choice, showing improved performance in water washout, EP/AW characteristics, and roll stability.
- Castrol supported the grease changeover, which required a thorough system purge to ensure minimal mixing of the greases.
- In addition to the savings, Castrol identified a failed reversing valve on one of the systems, which was repaired promptly thus avoiding any bearing failures.

Significant usage and waste treatment savings through the use of Castrol Spheerol EPLX 460-1 cost competitive grease!

\*Formerly named Castrol GXL 729-1



## RECOMMENDATIONS

The timer settings were adjusted on the caster Farval dual-line systems to reduce the usage. Off times were increased by 1 minute on the Caster #1 Segment system (9 min to 10 min) and by 5 minutes on the Caster #1 Pinch Roll system (15 min to 20 min). Segment and Pinch Roll bearings were inspected during downturns to ensure grease coverage was acceptable and that the rolls turned freely. Amp draw on the pinch rolls was also monitored.

Once deemed successful, the new timer settings were transferred to Caster #2.

## CONCLUSION

Grease usage at the casters was reduced by 10.4% which equates to \$49,895 savings. Waste treatment savings from easier grease removal and lower grease haul-off volumes resulted in \$27,000 savings. The plant also expects savings in their cooling towers through lower sand filter costs, which will be monitored over the next year.

Castrol Spheerol EPLX 460-1 exceeded customer expectations by not only reducing usage and waste treatment costs but by also lowering clean-up times and improving pumpability.



## OTHER POTENTIAL APPLICATIONS

Castrol Spheerol EPLX 460-1 is suitable for use in all heavily loaded, slow speed applications, especially those in the harsh conditions of steel mill casters and rolling mills. It is formulated to provide excellent EP properties without the use of solid lubricant additives.

Caster	System	Feeds	Timers (minutes)		Lube Block Size	# of Brgs	Grease Volume /Brg (cc)*	Usage/day (L)		% Reduction
			Previous	Castrol				Previous	Castrol	
1	#1	Segments	9	10	DPD5X - cross ported	184	9.48	279.1	251.2	10.0%
	#2	Pinch Rolls/Slide	15	20	DD5X	16	4.74	7.3	5.5	25.0%
	#3	Straightener	120	120	DPD5X	12	4.74	0.7	0.7	0.0%
2	#1	Segments	9	10	DPD5X - cross ported	184	9.48	279.1	251.2	10.0%
	#2	Pinch Rolls	15	20	DF6X	4	13.11	5.0	3.8	25.0%
		Slide	15	20	DD5X	12	4.74	5.5	4.1	25.0%
	#3	Straightener	20	20	DPD5X	12	4.74	4.1	4.1	0.0%
TOTALS								580.7	520.5	10.4%

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