

# Success of Castrol Lubrication Program at Cement Plant

## CEMENT (USA)

### Castrol Plant-Wide Lubrication Program

**Savings: 45% lubricant cost reduction per ton**



**A major cement maker in Texas used Castrol lubricants and services for 5 years. During this time, Castrol implemented High Performance Lubricant (HPL) technology and also developed a formal Lubrication Management Program (LMP).**

Castrol's approach to optimizing machinery lubrication and reducing costs was based on the following:

**1. Development and implementation of a formal LMP which includes services, as listed below, to prevent the most common causes of high lubrication costs in Cement mills:**

- Engineering Study and Conversion Support – to make sure the right lubricant is used for each application and prevent misapplication.
- Equipment Status Reports, Gear and Bearing Inspections – to prevent unexpected equipment failures and to increase uptime.
- Training Programs – for management, maintenance, and operating personnel. Courses include troubleshooting at the machine component level, preventive and predictive maintenance techniques, and application "do's" & "don'ts".
- Oil Analysis and Filtration Program – to establish an on-going program of oil sampling and analysis that monitors the condition of critical systems and determines oil suitability for continued service. Filtration program to significantly extend oil and equipment life.
- Performance Documentation – to provide written results documenting program results & benefits.

**2. Implementation of HPL technology where Castrol lubricants may have the most significant effect on the following:**

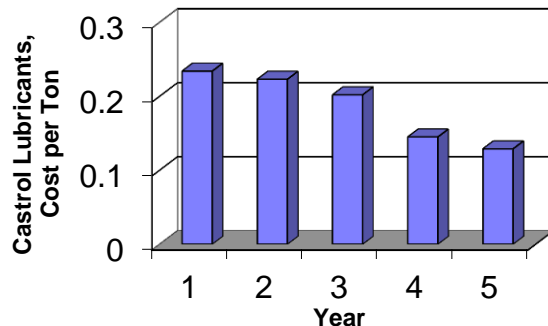
- Equipment life extension. Castrol HPL (Optigear 1100 gear oil) having a patented additive package is not only capable to reduce and prevent wear but to improve previously damaged gear condition.
- Oil life extension. Castrol HPL gear and hydraulic oils, having extremely high oxidation resistance, last 4 times (Optigear 1100 gear oil) and 6 times (Tribol HM 943 hydraulic oil) longer than convention oils.
- Lubricant consumption reduction. This is achieved based on: longer life and increased oil change intervals; longer bearing relubrication intervals due to the higher mechanical and roll stability of Castrol greases.
- Lubricant inventory consolidation. Castrol HPL grease (Molub-Alloy 860/220-2 ES) is capable to be successfully used in all cement plant bearing applications, thus greatly reducing the number of greases typically found in a cement mill.

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## COSTS OVER 5-YEAR PERIOD

Year	Lubricant Cost	Production (tons)	Cost per ton
1	\$137,976	590,626	\$0.234
2	\$121,353	455,316	\$0.223
3	\$124,225	613,900	\$0.202
4	\$89,065	615,718	\$0.145
5	\$75,959	587,113	\$0.129

## LUBRICANT COST PER TON REDUCTION



## SUMMARY

- ❖ Average service life extension of enclosed gears: **2 times**
- ❖ Oil change intervals, average increase: **3 times** (from 1.5-2 years to 4-6 years)
- ❖ Lubricant inventory consolidation:
  - Gear oils reduced from 6 to 3
  - Hydraulic oils reduced from 4 to 2
  - Greases reduced from 5 to 2
  - Total reduction: **15 to 7**
- ❖ Total lubricant cost reduction: **42%**
- ❖ Cost reduction per ton: **45%**



**Implementing Castrol's high performance lubricants and service program was the key to reducing maintenance labor and parts replacement, in addition to achieving maximum equipment performance, optimizing machinery lubrication, and reducing total costs.**

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