

# Maintenance Efficiency Through Improved Lubrication

## PULP & PAPER (USA)

### PAPER MACHINE OIL

#### Castrol Optigear Synthetic 800/1000

**ANNUAL SAVINGS: \$73,580**

#### THE SITUATION

A major roofing material manufacturer was experiencing short lubrication cycles and high maintenance costs in their paper-making operations. The non-drive side, plain bearings of the paper dryer (75+ total) had to be lubricated by hand every 2 hours in order to prevent bearing failures. This was messy, time-consuming, and dangerous for the maintenance personnel.

They were seeking an improved oil and method of lubrication to increase efficiency and reduce costs.

#### BEFORE

- ISO 460 mineral gear oil
- Bearings lubricated by hand every 2 hours
- Temperatures up to 300°F
- Housekeeping problems, requiring daily clean-up
- Dryer start-up problems

#### AFTER

- Optigear Synthetic 800/1000 full synthetic
- Automatic lubrication system installed, oiling every 4 hours
- **Oil usage reduced by 78%**
- Reduced temps by 30°F
- Daily clean-ups eliminated
- Start-up problems eliminated

#### THE SOLUTION

- Castrol Engineers performed calculations and determined that a full synthetic oil with higher viscosity & viscosity index would extend re-lubrication intervals.
- Tests conducted by the customer indicated that the Optigear Synthetic 800/1000 lasted two times longer in the bearings than the baseline competitor fluid.
- Castrol's LubeCon equipment division designed an automatic lubrication system to apply the oil, eliminating the need for hand oiling.
- Many benefits were realized: Lower oil usage, lower bearing temps, less maintenance resources needed, better housekeeping, increased production, and improved safety.



- **Lubrication cycles greatly extended**
- **Improved efficiency in maintenance activities**
- **Reduced bearing temperatures**

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## RECOMMENDATIONS

Castrol's capabilities around lubricants and lubrication systems were a perfect match for this customer. The lubrication system was custom designed to meet the needs of the application. The slow speed and high temperature of the bearings required a high performance oil in order to provide the greatest bearing life and longest lubrication cycles.

Previous problems with stuck rolls on start-up were eliminated, allowing the plant to install an automatic paper feeder and increase production.

## CONCLUSION

The implementation of the automatic lube system and improved oil allowed maintenance personnel to focus on more important areas of need and kept them away from the dangerous process area containing hot, moving equipment. The success on the non-drive side with Tribol 800 led the customer to begin using it on the drive-side bearings as well.

**The result was \$73,580 annual savings along with many other benefits!**



## OTHER POTENTIAL APPLICATIONS

Optigear Synthetic 800/1000 is a full synthetic polyglycol lubricant designed to handle very high temperatures, extremely slow speeds where an oil film is difficult to generate, and heavy loads.

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IT'S MORE THAN JUST OIL. IT'S LIQUID ENGINEERING.

