

# Gearbox Failures Eliminated

## METALS (NORTH AMERICA)

### TUBE MILLS

Castrol Optigear® 1100/220 gear oil\*

**ANNUAL SAVINGS: \$60,000**



#### THE SITUATION

A welded tube mill was rebuilding / replacing two (2) Fessler gearboxes per year due to premature wear, increased friction and heat.

The oil in use was a conventional gear oil from a major oil supplier.

#### BEFORE

- Conventional gear oil in use, ISO 150
- Two (2) gearbox failures per year
- Equipment cost: \$50,000/yr
- Productivity lost: \$10,000/yr

#### AFTER

- High performance gear oil in use, Castrol Optigear 1100/220
- No gearbox failures
- Equipment cost eliminated
- Productivity losses eliminated

#### THE SOLUTION

- Castrol personnel surveyed the main mill gearboxes to fully understand the situation.
- OEM recommendations were researched to determine the correct oil for the application. We found that an ISO 220 was specified, even though an ISO 150 was being used.
- Recommended the ISO 220 version of Optigear 1100 to correct the wear modes.
- Castrol engineers supported the gear oil trial with oil samples every 100 hours to establish baseline data.
- Once success was established, regular oil samples were taken every 1,000 hours.

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## RECOMMENDATIONS

In addition to providing an improved gear oil at the right viscosity, Castrol also upgraded the gearbox breathers to DES-CASE filtering / moisture-absorbing breathers, so the customer could get the maximum life and benefit from the oil. Oil analysis improvements were made through more regular sampling, more detailed analysis, and access to the results online.

## CONCLUSION

Based on the results of the trial and support from Castrol, the customer converted all fourteen (14) main line gearboxes to Optigear 1100/220 to realize the full benefits of the oil. The gearbox failures were fully eliminated.

**The result was \$60,000 in equipment and productivity savings to the mill.**



## OTHER POTENTIAL APPLICATIONS

Optigear 1100 high performance gear oil with TGOA additive is designed to provide long equipment and oil life for gear drives and circulating systems requiring an EP oil. It provides maximum life of gearing and can even reverse the negative effects from use of conventional oils.

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