

Chain Reliability Program



SUMMARY

Industry: Timber Process Facility
Asset: Duplex RS80-1.5 metres
Product: Chesterton 601 Chain & Bushing Lubricant



ENVIRONMENT

- In this area, logs run along the conveyor and are then passed through to the chipper area.
- This chain drive experiences constant, heavy loads from the weight of the logs as well as contamination from the build up of saw dust flying back from the chipper.
- Although this is a small chain, it is a critical area and causes major problems in the production process when not operational.

MAINTENANCE HISTORY

- The chain in this location of the timber process facility had been lubricated twice daily with 200ml of Fuchs 120 Chain & Bar Lubricant.
- The chain was changed completely every 4-6 weeks.
- The chain was re-tensioned every 2-4 weeks.
- Production on this critical line would come to a halt during retentioning & change out.

CHESTERTON 601 TRIAL

- A new chain was installed on 20th June, 2012. Lubrication with Chesterton 601 Chain & Bushing Lubricant commenced on 25th June 2012. 50ml of 601 was applied once per week.
- The first retention was required on 13th August 2012, 7 weeks into the trial. The chain had been in operation 5 days before 601 was applied.
- The original chain was still in operation after 22 weeks. There has been no retention since 13th August 2012.

COST BENEFIT ANALYSIS

Based on the cost of lost production of \$251.00 per minute and labour cost of \$40.00 per hour.

Cost of Chain - \$127.50/metre

- Saving in lost production: \$149,847.00
- Saving in labour cost: \$2,158.00
- Saving in replacement chain: \$688.50
- **Total Cost Benefit \$152,693.35**

COST BENEFIT ANALYSIS - PRODUCT

- Cost of lubricant using Fuchs 120 Chain & Bar Oil over 22 weeks: 200ml per day = **\$2475.00**
- Cost of labour using Fuchs = **\$1760.00**
- Cost of lubricant using Chesterton 601 Pin & Bushing Lubricant over 22 weeks: 50ml per week = **\$207.90**
- Cost of labour using Chesterton 601 = **\$440.00**

COST BENEFIT ANALYSIS - ENERGY

- Amperage reading prior to application of Chesterton 601 - 16.5 amps across all three phases.
- Readings at the end of the trial were down on some phases to 13.5 amps, average reduction in power consumption during 22 weeks was 16.1%.

Conclusion

The objectives achieved from this trial were:

- Reduction in lost production.
- Reduction in labour costs.
- Reduction in cost and usage of product.
- Reduction in energy consumption.
- Reduction in reactive maintenance.

RECOMMENDATIONS

- Tool box talks conducted regularly by AW Chesterton trained, Imatech Specialists to ensure best lubrication practices.
- Ongoing monitoring of asset performance by Imatech Specialists.