

Market: Fiberglass

Application: Curing Oven Lubrication

Product: Castrol LubeCon Series SYN HT 200

3-Year Savings: \$196,993



THE SITUATION

A major fiberglass manufacturer, using a competitor's product, was incurring excess cost as a result of improper lubrication.

Castrol was challenged to reduce cost, improve the lubrication method, increase chain life, and reduce or eliminate oven fires as a result of improper chain lubrication.

BEFORE

- Three misaligned lubricant nozzles per chain, resulted in misapplied oil (a housekeeping issue) and high oil consumption
- Excessive chain residue
- Lubricant randomly dripping onto chain, regardless of chain speed
- Maintenance and safety issues with maintaining lubrication equipment

AFTER (Yr-1)

- This fiberglass customer and Castrol, working as partners, identified key problems with lubrication methods and made significant improvements
- Regardless of chain speed, lubricant is precisely applied to four locations on each chain
- Reduction of chain residue (visual)
- 57% reduction in lubricant usage
- 37% reduction in drive amperage
- Regular follow-up visits from a Castrol Account Manager to ensure program success
- System supplied data (daily):
 - oil consumption
 - record of alarm history
 - conveyor speed and drive amperage
- Chain wear reduced by 67% when compared to same time period before Castrol, 2006 versus 2007
- No oven fires or down time as a direct result of chain lubrication

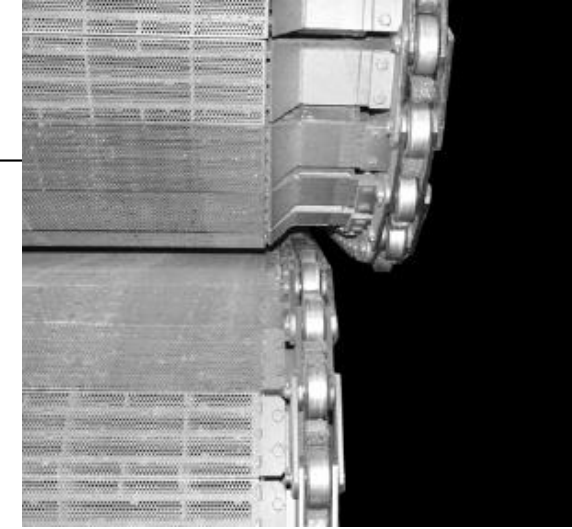
AFTER (Yrs-2&3)

- The introduction of improved technology Castrol LubeCon Series SYN HT 200 synthetic chain lubricant was introduced to: improve thin-film volatility, reduce residue characteristics, and increase flash point and chain life
- Extended chain life by nearly 50% when comparing 2006 data (pre-Castrol) to 12-months of new chain data in 2009/2010
- Castrol delivered a 70% chain wear reduction during a new chain break-in period (1.25" of wear) versus a previous competitor (4.125" of wear), when compared to the same time period
- Upgraded shot-to-point lubricant delivery heads to improve nozzle efficiency and cleaning
- No oven fires or down time as a direct result of chain lubrication

Cost Savings

Measurable Items	
Drive Amperage Annual savings (\$.0366/kwh)	\$17,200
Automatic reservoir refill system - labor savings 2.5hrs/wk x \$30hr x 52wks x 3years	\$11,700
Lubricant savings	\$50,093
Castrol's turnkey lubrication system and installation at no cost to customer	\$62,000
YTD extended chain life: flight removal avoidance 4hrs downtime X \$2000/hr	\$56,000
Total for contract term	\$196,993

Additional non-measurable savings and cost avoidance	
No fires or downtime as a direct result of chain lubricant	TBD
Significant reduction in oil consumption resulting in less VOC's	TBD
Extended chain life	TBD
Data collection to identify potential process problems	TBD
Castrol's lifetime equipment warranty, parts and service	TBD
Reduced frequency of chain cleaning	TBD
Regular onsite Castrol technical support to ensure control of cost and program success (10 hours per month x 12 months x \$70 per hour = \$8,400 per year)	\$25,200



Supporting Documentation

Flight Removal Cost Avoidance Savings:

Flight removal = 4hrs downtime x \$2000/hr = \$8,000

Flights removed before LubeCon Lubricant & Equipment

In 2004 three flights were removed = \$24,000

In 2005 two flights were removed = \$16,000

In 2006 three flights were removed = \$24,000

3 year total \$64,000

Flights removed after LubeCon Lubricant & Equipment

In 2007 zero flights were removed = \$0

In 2008 zero flights were removed = \$0

In 2009 zero flights were removed = \$0

In 2010 one flight was removed = \$8,000

Total \$8,000

Savings:

2004-2006: \$64,000 cost to customer (before LubeCon)

2007-2010: - \$8,000 cost to customer (after LubeCon)

\$56,000 cost avoidance savings

Lubricant Savings:

Note: Castrol provided 10% yr-1, additional 3% yr-2, additional 2% yr-3 of contract

2006 Monthly oil spend, before Castrol \$10,310/mo

2007: \$10,310 x 12 = \$123,720

2008 with 11% incr. \$11,444 x 12 = \$137,328

2009 with 3% incr. \$11,787 x 12 = \$141,449

\$402,497

Oil spend with Castrol

2007 10% Savings: \$9,279 x 12 = \$111,348

2008 3% Savings and 11% incr. \$9,997 x 12 = \$119,964

2009 2% Savings and 3% incr. \$10,091 x 12 = \$121,092

\$352,404 total for 3-yr

Savings:

\$402,497

- \$352,404

\$50,093 in savings over 3-yr

Note: Price increase is assumed to be static in both scenarios. Market movement indicates that price increases far exceeded index movement over this time period.

