

APPLICATION

Separators & Clarifiers

Cheese Co. Achieves 3,202% ROI with LE Gear Oil

CUSTOMER TESTIMONIAL

Large U.S. Cheese Company

Customer Profile

This large U.S. cheese company specializes in the production of cheese and whey products for private label and national brand, retail, and food-service companies across America. This company has the capacity to produce 1.5 million pounds of cheese per day.

Application

Gear and bearing sets on the plant's Westfalia separators and clarifiers

Challenge

While using a competitor's comparable high-performance gear oils on its separators and clarifiers, the cheese plant experienced significant costs related to oil, parts, rebuilds, labor and production downtime as documented by plant personnel. They were looking for better performing lubricants that would protect the equipment so that the plant could continue operating without interruption. Avoiding downtime was crucial to the plant's profitability.

LE Solution

LE's Clay Calk recommended Duolec Industrial Gear Oil (1605) – an ISO VG 220 gear oil – for the cheese plant's 17 separators and LE's Duolec Industrial Gear Oil (1601) – an ISO VG 46 gear oil – for the plant's 15 clarifiers. Duolec Industrial Gear Oil is a high-performance oil comparable in cost to the oil that was being used by the plant. Both lubricant conversions took place in January 2011.

Duolec Industrial Gear Oil is known for its tenacious metal-clinging, gear-climbing action. It contains Duolec, LE's proprietary dual-acting additive that provides both wear-reducing and extreme pressure protection. This additive

CHALLENGE

Equipment failure and production downtime related to inadequate lubrication

SOLUTION

Duolec® Industrial Gear Oil

RESULTS

- Reduced wear on gear and bearing sets
- Achieved 3,202% total ROI
- Saved \$1,011,052 on oil, parts, rebuilds, labor, and downtime

Results

Based on the evaluation of oil, parts, rebuilds, labor and downtime from the Westfalia separators and clarifiers after converting from the competitive gear oil to LE's Duolec Industrial Gear Oils 1601 and 1605, the plant saved \$815,720 in two years on its separators and \$195,332 in five years on its clarifiers – creating a whopping 3,202% ROI for the plant.

On the separators, the plant went from replacing 12 gear sets and 12 bearing sets in two years to just four replacements of each after the oil switch. This resulted in a reduction in parts and labor, but more importantly, a huge reduction in downtime.

On the clarifiers, the plant went from 600 gallons to 150 gallons of oil. Less labor was needed with the oil changes being cut from 300 to 75, although this amount was not documented. In the five years with the previous oil, two units were rebuilt; after switching to the LE oil, no rebuilds were needed. This resulted in savings on labor and downtime.



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increases oil film strength and is temperature-activated to provide a protective layer that smooths metal surfaces and minimizes the effects of any contact, thereby reducing friction and preventing surface wear. Other features of the oil that made it a desirable choice for these applications include thermal stability, oxidation resistance, and the ability to separate from water and maintain film strength and viscosity.



Separator



Clarifier

Separators: 2-Year Comparison

	Competitor's ISO VG 220 Oil		LE Duolec 1605		Savings
Lubricant	612 gallons	\$24,651	612 gallons	\$24,651	\$0
Gear Replacements	12 sets	\$120,000	4 sets	\$40,000	\$80,000
Bearing Replacements	12 sets	\$14,400	4 sets	\$4,800	\$9,600
Labor to Replace Gears & Bearings	204 hours	\$9,180	68 hours	\$3,060	\$6,120
Production Lost to Downtime	108 hours	\$1,080,000	36 hours	\$360,000	\$720,000
Total Cost		\$1,248,231		\$432,511	\$815,720

Clarifiers: 5-Year Comparison

	Competitor's ISO VG 46 Oil		LE Duolec 1601		Savings
Lubricant	600 gallons	\$23,856	150 gallons	\$5,964	\$17,892
Labor to Change Oil	300 oil changes	NA	75 oil changes	NA	NA
Rebuilds	2 units	\$16,000	0 units	\$0	\$16,000
Labor to Rebuild Clarifiers	32 hours	\$1,440	0 hours	\$0	\$1,440
Production Lost to Downtime	16 hours	\$160,000	0 hours	\$0	\$160,000
Total Cost		\$201,296		\$5,964	\$195,332

Summary

	Competitor Oils	LE Oils	Savings
Total Cost on Separators	\$1,248,231	\$432,511	\$815,720
Total Cost on Clarifiers	\$201,296	\$5,964	\$195,332
Totals	\$1,449,527	\$438,475	\$1,011,052

Calculating Return on Investment

The total savings calculated and received by the customer was \$1,011,052. The total investment over the period for LE's Duolec Industrial Gear Oil totaled \$30,615. Using the ROI formula below yields a 3,202% ROI:

$$\begin{aligned} \text{ROI} &= \text{Amount of Financial Gain} / \text{Total Investment Amount} \\ \text{ROI} &= \$980,437 / \$30,615 \\ \text{ROI} &= 32.0247264 * 100 \\ \text{ROI} &= 3,202\% \end{aligned}$$

