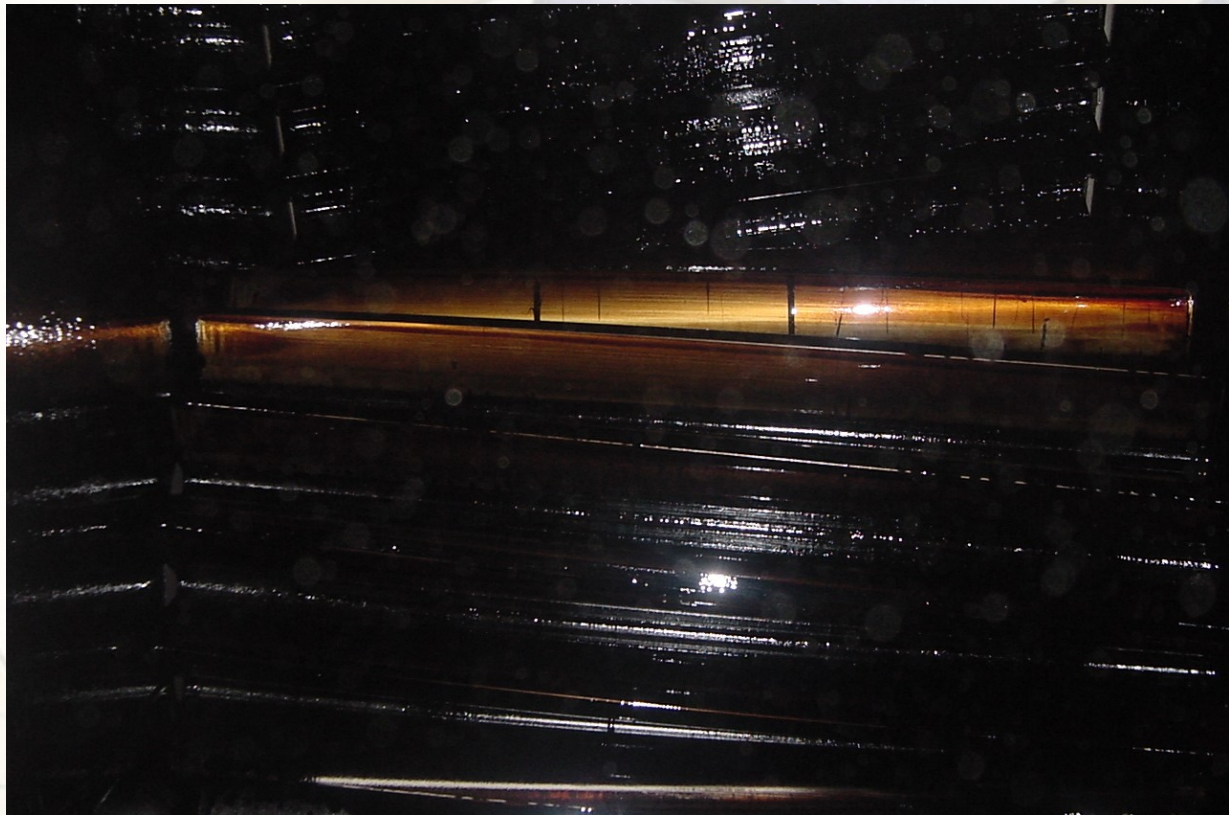




Proof of Performance

Gear Shield NC[®] In The Cement Industry





Proof of Performance

Background Information

Industry: Cement
Equipment: Kiln

Application: Open Gear Lubrication
Lubricant: Petron Gear Shield NC®

Previous Condition:

- 1) Customer used a synthetic product to lubricate the open gears of one kiln.
- 2) Evidence of excessive lubricant on surface of gears.
- 3) Consumption of open gear lubricant estimated at 36 pounds per day.

Current Condition:

- 1) Gear Shield NC® currently lubricates the open gears of kiln.
- 2) Current application of lubricant exceeds OEM recommendation.
- 3) Current consumption of Gear Shield NC® estimated at 9 lbs. pounds per day.

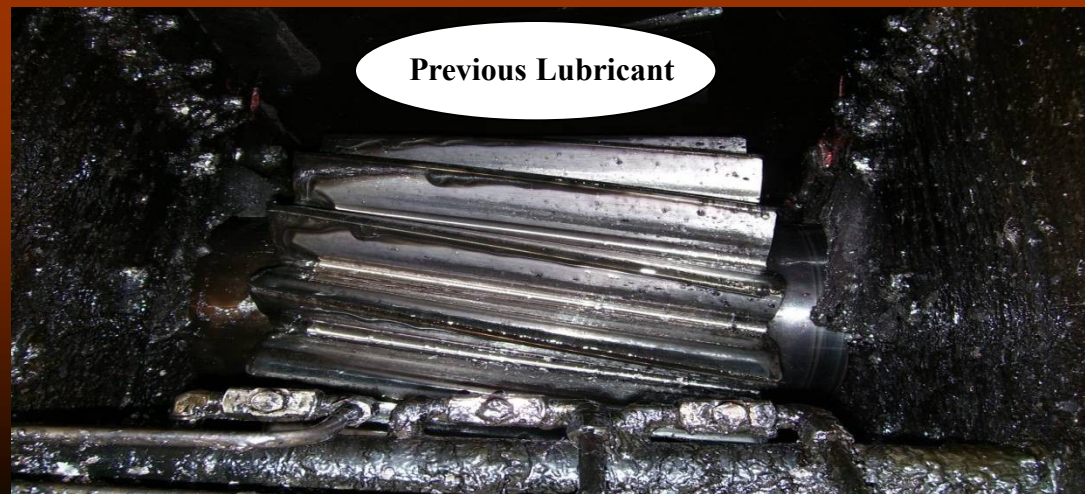
Benefits:

- 1) Greater protection to gears due to superior film thickness (lambda value) of Gear Shield® NC.
- 2) 75 % reduction in lubricant consumption.
- 3) Cost reduction to dispose of used lubricant.



Proof of Performance

Higher Viscosity Film Thickness Established

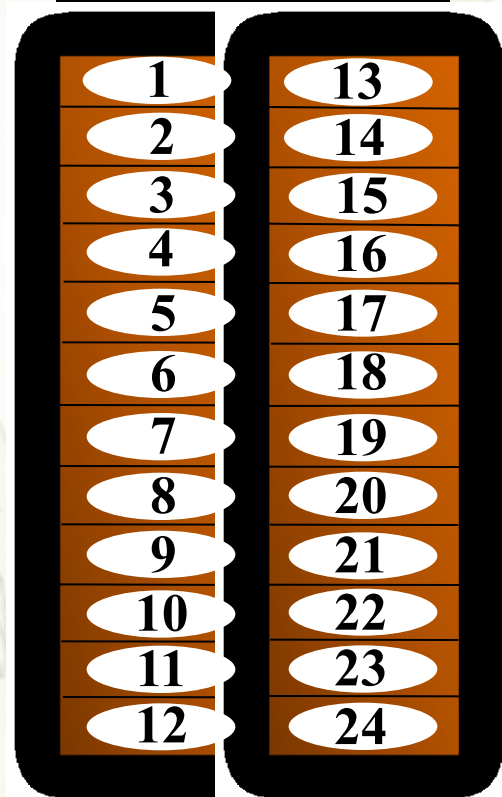


K1 Kiln Automatic Lubrication System

Timing Comparison

(Over Sixty Minutes)

Previous Product



**24 Cycles Every
Sixty Minutes**

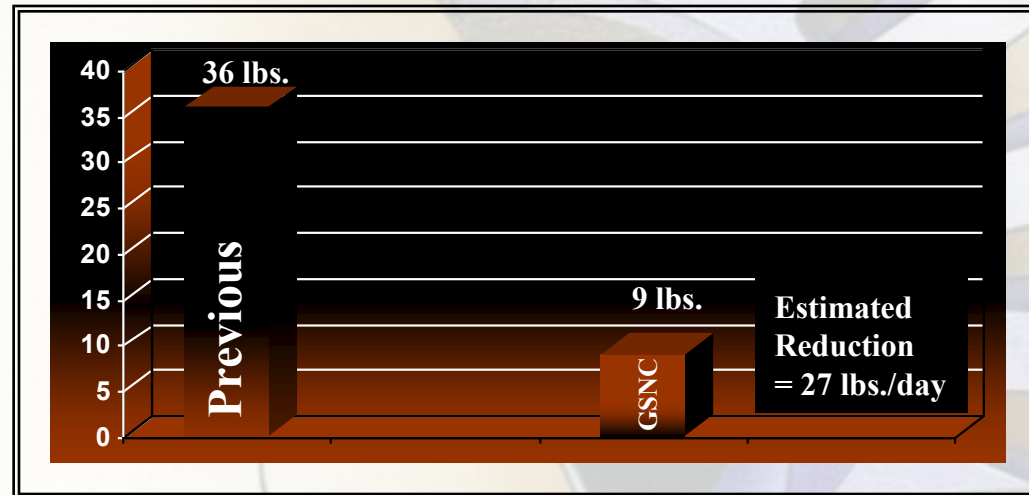
Gear Shield NC[®]



**6 Cycles Every
Sixty Minutes**

K1 KILN

Daily Lubricant Consumption Reduced 75%



Benefits

- **Increased Gear Protection**
- **Reduced Lubricant Consumption**
- **Reduced Lubricant Cost**
- **Reduced Used Lubricant Disposal Cost**
- **Improved Housekeeping**



Proof of Performance

Hardware

One Lincoln SL-1 injector per spray head

Each injector adjustable between .008 - .080 cu. in.

Output set at 75% of maximum = .060 cu. in. per injector

Previous = 36 lbs. per day

Lubrication cycle = 2 ½ minutes (24 cycles per hour)

.060 x 1 = .060 cu. in. per injector

.060 x 3 injectors = 1.80 cu. in. total output

1.80 cu. in. x 24 cycles per hour = 43.20 cu. in. (24.0 oz)

24.0 oz. x 24 hours = 576 oz. (36 lbs.) per day

Current = 9 lbs. per day

Lubrication cycle = 10 minutes (6 cycles per hour)

.060 x 1 = .060 cu. in. per injector

.060 x 3 injectors = 1.80 cu. in. total output

1.80 cu. in. x 6 cycles per hour = 10.80 cu. in. (6.0 oz.)

6.0 oz. x 24 hours = 144 oz. (9 lbs.) per day

Consumption Estimate K1 Kiln

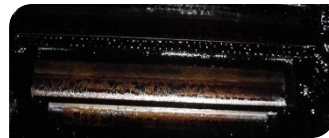
Product

Consumption

Gear Shield NC[®]

K1 Kiln =

9 lbs. per day



Previous Product

K1 Kiln =

36 lbs. per day

