



Case Study

NYE LUBRICANTS SUCCESS STORIES

KOSME

Industry: Food & Beverage

Application: Pneumatic Cylinder in Bottling Equipment

Component: O-Ring Seals

BACKGROUND

KOSME designs and manufactures a full range of bottling and beverage line equipment for filling, labelling, and stretch blow molding. The company was looking to replace an existing grease with an H1 incidental food contact product to lubricate the O-ring seals of a pneumatic cylinder. The cylinder is a rotating piece of equipment that requires all seals to survive hundreds of thousands of cycles. Lubricating the o-ring seals can help protect the application from abrasion damage. The seals are made of EPDM elastomer and require good material compatibility from a lubricant. KOSME reached out to our Channel Partner in Italy, Technolube Seal, to find a compatible grease.

For more information, contact our technical expert.

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CHALLENGES

- Can an H1 lubricant eliminate stick-slip friction on the cylinder application?
- Can this lubricant prove to be compatible with EPDM elastomer?
- Will this lubricant pass KOSME's accelerated wear testing and exhibit long-term elastomer life and sealing capability?

SOLUTION

1. Fluorocarbon Gel 880FG & 885FG were submitted to KOSME for evaluation as they are two H1 certified lubricants.
2. The products were tested to make sure both eliminated stick-slip friction on the cylinders.
3. The cylinders were lubricated with the 880FG and 885FG and cycled for several hundred thousand repetitions. The cylinders were evaluated for smoothness (no stick-slip) and wear on the seals.
4. Each product was subjected to an accelerated aging test to ensure the seals would last the expected life time.



Bottle Filling Line

RESULTS

Fluorocarbon Gel 880FG & 885FG passed all test requirements, confirming the lubricants will prevent stick-slip friction and wear throughout the lifespan of the O-ring. KOSME chose to use both products to lubricate the seals. These products are now specified in for the first fill on each filling machine.

Lubricant Properties	Fluorocarbon Gel 880FG	Fluorocarbon Gel 885FG	Test Method
Temperature Range	-40 to 200°C	-40 to 200°C	
Base Oil	Dimethyl Silicone	Dimethyl Silicone	
Thickener	PTFE	PTFE	
Kinematic Viscosity (40°C)	18,407	410	ASTM D-445
NLGI Grade	2	1	ASTM D-217
Water Washout (60 minutes, 100°C)	0.25%	1.74%	ASTM D-1264
Copper Corrosion (24 hours, 100°C)	1B	1B	ASTM D-4048
NSF Registration	H1 #133064	H1 #133065	