



Duolec® Vari-Purpose Gear Lubricant (1606)

Dietrich Metal Framing – Hammond, Ind.

Gearboxes

- *Savings in the six figures*
- *Slowed or stopped wear on gear surfaces*

Customer Profile

Dietrich Metal Framing, a Worthington Industries Company, is the leading manufacturer of light-gauge framing and finishing products, systems and services for commercial and residential construction. Dietrich offers the largest selection of light-gauge framing and finishing products, including drywall and structural framing, floor joists, roof trusses, metal lath, fire-rated assemblies, numerous deflection systems and an extensive line of metal, vinyl, veneer, paper-faced, plaster and stucco beads and trims.

Dietrich and its divisions operate 30 plus manufacturing and service locations throughout North America.

Dietrich / Hammond has been a Lubrication Engineers customer for more than ten years.

Application

The company wanted to find a heavy-duty gear lubricant to use in the worn out reel gearboxes of a 60 inch cold reduction single stand reversing mill. Due to heavy production demands, the company needed an additional six months for this mill to run, before their new gear sets were received.

Challenge

The company had a new single stand cold reduction reversing mill, a very critical and expensive piece of equipment, which ran 24 hours 5 days or more on a regular basis. This machine's reel gear sets were not engineered properly for the extreme demands and were wearing out rapidly. The company had the new gear sets on order, but the supplier of this gearbox needed an additional six months to correct all the design deficiencies. The maintenance department was very



Close up of gear



Low speed shaft



Low speed gear



concerned that this mill may not even run for a few weeks, let alone a few months. On the other hand, the production department wanted to increase production to meet the sales demand.

LE Solution

The local LE lubrication consultant recommended LE Almasol® Vari-Purpose Gear Lubricant (605) now replaced with Duolec® Vari-Purpose Gear Lubricant (1606) ISO 320/SAE 140/6 EP. Duolec 1606 is a high-performance industrial/automotive gear oil acceptable for use in any industrial gear or bearing application that requires a high thermal stability, extreme pressure lubricant. In addition, this product is fortified with a shear stable tackifier to provide adhesion to the metal during use.

Results

The company had two bevel gears at 6" across the face with 12" & 40" diameters in both of the cold reversing mill reels. This equipment is unique and critical to the operation of this plant. The gear sets of this mill were worn-out and needed to be replaced. Due to extended delay in receiving new parts, the company had to do something. Many lubricant vendors were talked to with little to no firm commitment of a solution.

A very leery of "Snake Oil Salesmen" and very concerned maintenance department, agreed to give LE product a try, as nobody else was as committed to their product. The LE lubrication consultant said, "I could tell you that our oil will put metal on your gears, but I wouldn't go that far. I can tell you that I will get you these critical six months until you receive your new gear sets."



Thank you to Gene Brown, maintenance supervisor (pictured left), and to V.C. Vasisth, LE lubrication consultant (pictured right), for providing the information used in this report.



Duolec 1606 was put in both reel gearboxes, and it delivered as promised. Those gear sets ran six months until the new gears delivered. They also ran an additional three months until production would allow the machine to be shut down long enough for the change. After examination of the bad gears it was determined that the wear was slowed enough that they may have run up to another year before failure.

This is the only lubricant used in the mill gearboxes since, and the pictured spare gear set has approximately eight years of use on them. Duolec 1606 is tested routinely and is only changed based on the oil analysis results.

According to Mr. Gene Brown, maintenance superintendent, "The saving for this application run in six figures because we did not have to stop production."

After experiencing excellent results using Duolec 1606, the company is using this oil in all gearboxes and other applications.

Other Products Used

- Almaplex® Industrial Lubricant (1275)
- Almasol® Worm Gear Lubricant (680)
- Duolec Vari-Purpose Gear Lubricant (1602 & 1607)
- Monolec Ultra® Engine Oil (8800)
- Multilec® Industrial Oil (6803-6804)
- Des-Case 4" X 9" Hygroscopic Breather
- LEAPSM – Advanced Industrial LEAP Kit

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Based on actual user experience. Individual results may vary. Not intended to supersede manufacturer specifications.

SIC 3316
LI70713 12-08