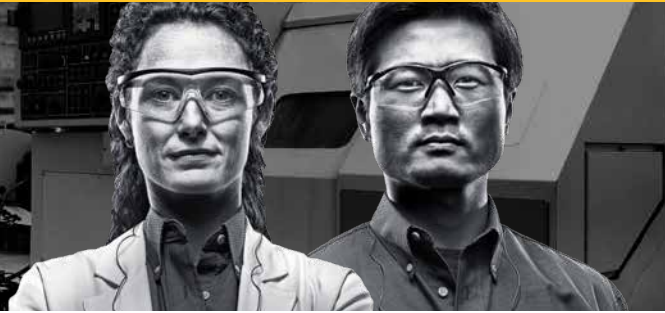


CASE STUDY



DIE CASTING QUINTOLUBRIC® POLYOL ESTER HFD-U

CHALLENGES

An automotive parts manufacturer was looking to replace the water glycol (HFC) fire-resistant hydraulic fluids being used to operate their die casting equipment. The fluid being used:

- » Had the typical lubricating properties of water glycol fluids
- » Had unacceptable pump wear and pump lifetime

To help improve operations, the manufacturer tested QUINTOLUBRIC® polyol ester HFD-U fluids as a potential replacement.

THE SOLUTION

- » QUINTOLUBRIC® polyol ester HFD-U is a synthetic fluid that can be used in equipment designed for traditional mineral oil fluids and provides better performance than fluids containing water
- » In addition to fire-resistance, QUINTOLUBRIC® polyol ester HFD-U provides excellent biodegradability and low aquatic toxicity, making it ideal for use where better environment protection is required
- » QUINTOLUBRIC® polyol ester HFD-U is unique in the industry because the exact same product is available worldwide. Out performs competitive products in fluid life and consistent performance
- » Quaker is recognized as the leader in HFD-U fluids by major builders and end users around the world. Approved by FM Global as a less hazardous hydraulic fluid

	BEFORE WATER GLYCOL	AFTER QUINTOLUBRIC® POLYOL ESTER HFD-U	IMPACT
Vane Pump Wear After 3,000 Hours	5724 mg	509 mg	91% wear reduction
Estimated Pump Lifetime	2 years	10 years	5 times longer pump life
Estimate Seal Lifetime	3 - 4 years	10 years	2 ½ to 3 times longer seal life
Frequency of Fluid Adjustments	4 times/year	Not Needed	Elimination of fluid
Pump Noise	88.0 dB	82.3 dB	Reduction in pump noise
Motor Noise	90.2 dB	83.4 dB	Reduction in motor noise
Power Consumption	338 kW per pump/day	319 kW per pump/day	5% reduction in power consumption

THE PRODUCT

Quaker's QUINTOLUBRIC® polyol ester HFD-U fluids are fire-resistant hydraulic fluids that do not contain water. HFD fluids are usually based on synthetic base stocks or esters that combine reasonable to good fire-resistant properties with excellent lubrication performance. HFD fluids are designed to operate in oil hydraulic equipment.

THE EXPERTISE

Quaker was the first company to offer HFD-U fluids and has been the market leader in this type of technology. Quaker's current HFD-U fluids are based on both synthetic organic compounds and naturally occurring esters. Quaker HFD-U fluids are readily biodegradable and have low aquatic toxicity, making them ideal for use where environmental protection is required. Quaker HFD-U fluids are globally available and give outstanding performance in fire resistance, lubrication and long service life.