

TUBE & PIPE

QUAKER PROTECH EP-680

INTRODUCTION

A major ERW pipe producer was having a number of issues associated with gearbox failure in their ERW mill. Key improvement areas desired by the customer included:

- Extend main drive gearbox life on ERW mill
- Reduce operating costs due to gearbox failures

IMPACT

After thorough inspection of the customer’s operation, Quaker noted the gears in the mill were varnished and had accumulated carbon deposits, caused by excess heat. The current mineral oil-based gear oil was running at 200°F, which is much greater than the manufacturer’s recommended 140°F. The severe oxidation was causing increased viscosity, sludge, varnishing and an increase in acidity. Quaker introduced their QUAKER PROTECH EP-680, which works extremely well in high-temperature applications, to provide higher oxidation stability and give outstanding wear protection. As a result, the customer plans to change all systems to EP-680 and was able to save an estimated total of more than \$150,000 in operating costs, shown in the following areas:

Baseline Performance	New Performance
Changing gear oil every week, with gearbox failures every 3 to 4 weeks	Quaker lubricant in operation for three months without any gearbox failures
Current annual spend on gear oil is \$21,000	Annual gear oil spend reduced to \$7,000
Gearbox replacement cost estimated at over \$80,000	Gearbox replacement cost reduced to under \$10,000
Current labor and downtime was 75 hours, costing over \$100,000	Cost for labor and downtime to be reduced by more than 90%

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GENERAL DESCRIPTION

QUAKER ProTech EP Series gear lubricants are formulated with synthetic (PAO) base fluids and fortified with select additive systems to enhance their exceptional performance. The PAO base fluid used has excellent oxidation and thermal stability, a naturally high viscosity index and excellent low temperature pumpability and fluidity. The additive system used provides increased oxidation stability, extreme pressure properties, and maximum protection against wear, rust, corrosion and foaming.

QUAKER ProTech EP Series synthetic gear lubricants have proven to reduce friction, reducing the input power to operate the equipment or increasing the available power output. The reduction of fluid friction results in lower lubricant operating temperatures, extending the life of both the lubricant and the equipment. The additive system used in this product not only reduces frictional drag, but also protects gears against failures associated with heavy loading and meets the requirements of U.S. Steel 224 specification, AGMA 9005-D94 specification and API GL-4 Gear Service Category.

APPLICATIONS

- Developed for the lubrication of enclosed gears and heavily loaded plain or roller element bearings
- Recommended for heavily loaded low speed gears and bearings where boundary or elasto-hydrodynamic lubrication (EHL) conditions exist
- Developed for gearboxes that operate under excessively high temperatures when a full synthetic is desired to reduce equipment downtime

PRODUCT AND PROCESS EXPERTISE

Quaker Chemical Corporation is a worldwide developer, producer and marketer of custom-formulated Tube & Pipe process chemicals and coatings. From first coil to final cut, Quaker is capable of providing process chemicals for all operations in ERW and Seamless mills, and delivers the in-depth process expertise to help maximize your productivity.

Quaker's product line includes hydraulic lubricants, high-temperature greases, cleaners, forming & sizing coolants, drawing & forming compounds, sawing lubricants, hydrotesting compounds, corrosion preventives and a complete line of high-value coatings (including solvent, water-based and UV coatings).



For more information, visit: www.quakerchem.com