

### Challenges

A large ERW Tube & Pipe producer desired to lower their operating costs in order to maintain their competitive position in the industry. As part of their program, the producer was interested in reducing the number of suppliers, improving quality, increasing output, and transferring Process Fluid Management to one supplier thereby allowing their personnel to concentrate on producing pipe. The company they chose to provide all their process fluids was Quaker Chemical.

### Providing Solutions

Quaker introduced a complete line of products and worked closely with the customer to meet all their specific needs. The result was an estimated yearly savings in excess of \$500,000, and a signed three-year contract with Quaker. The customer also introduced Quaker to five of their other mills throughout the United States. Quaker's products, engineering, and services provided improvements in process efficiencies and quality, and lowered operating costs in the following areas:

#### Sizing and Forming Coolants - [QUAKERCOOL® 2855](#)

Installed on all ERW lines. Customer obtained immediate cost saving and process improvements:

- Greatly reduced bacteria, mold and fungi
- Provided greater fine settling
- Eliminated smoke, oil misting and compatibility issues
- Exceptional cleanliness and detergency
- Improved finish and appearance
- Improved employee health and safety
- Greater sump life
- Longer saw blade life
- Greatly reduced residues on machines and rolls
- Cleaner pipes – smut reduction
- Lower operating cost – a minimum of 15% savings

#### Roll and Transfer Bearing Grease - [QUAKER DYNACHEM LC EP 2](#)

Replaced the current greases with the following benefits:

- Excellent resistance to water wash-out
- Superior rust and corrosion protection
- Outstanding protection at high temperatures (dropping point 550°F+)
- Good shock-loading protection (Timken OK)
- Excellent EP protection for heavy loading

#### Gearbox Lubrication - [QUAKER PROTECH EP-680](#)

Replaced the current oil-based gearbox lubricant causing premature failures of gears. Upon inspection, Quaker noted the gears were varnished and had accumulated carbon deposits. This was caused by excess heat. Oil was running at 200°F, which is much greater than the manufacturers recommended 140°F. The severe oxidation caused increased viscosity, sludge, varnishing and an increase in acidity leading to gear failure. QUAKER PROTECH EP-680 worked extremely well in the high temperature application. It provided higher oxidation stability and gave outstanding wear protection.

#### Cleaning - [QUAKERCLEAN® LFE](#)

Replaced the current cleaner with the follow advantages:

- Used concentration is 1% to 5% - low applied cost
- Quickly penetrated soil for complete removal with no redeposit of residues
- Will not foam in high-pressure spray applications
- No waste treatment issues

#### Corrosion Inhibitor - [FERROCOTE® 364 BF T1](#)

Applied to the pipe surface, where a hard coating was not required, just prior to bundling on all lines. This is a solvent dispersed barium-free corrosion preventive, formulated to provide indoor protection on ferrous and non-ferrous surfaces with the following benefits:

- A single product to protect many metals, simplifies operations and reduces inventory costs
- Rapid displacement of moisture reduces initiation of corrosion. Passes MIL-C-16173 requirements.
- Neutralized the effect of acid residues from fingerprints. Passes MIL-C-15074 requirements.
- Compatible with most final corrosion preventives and bearing oils and greases. No need to remove. Reduced processing costs (cleaning).
- Quaker designed application system to coat the pipes.

#### Coating - QUAKERCOAT® 155

Black water-based, air-curing, permanent protective coating intended for use as a long-term outdoor corrosion inhibitor. QUAKECOAT® 155 exhibits a rapid dry, high gloss black finish. It replaced the current hard coating for their sprinkler pipe. Customer obtained immediate cost saving and process improvements:

- **Reduced coatings consumption - Excellent transfer efficiencies.**
- **Maintained consistent operation – less downtime.**
- **Rapid drying in all mill conditions (1-2 seconds tack free time versus 3-5 minutes for the current coating).**
- **Six months minimum outdoor storage without corrosion problems**
- **Consistent quality of coating appearance and application rates**
- **Extremely early water resistance when compared to current coating. Will not wash off, thereby assuring that the coating is in place.**
- **Reduced VOC emissions, which allowed complete compliance with local regulations.**
- **Improved cosmetic appearance of coated pipes. Saved over \$100,000 in re-coat cost.**
- **Decreased or eliminated hazardous waste from runs and sags of coatings falling off of coated pipe or application equipment. Reduced cleanup and disposal cost compared to present coating. Saved over \$85,000.**

#### Service

Customer received immediate benefit from Quaker's outstanding service:

- **Provided automatic coolant concentration control.**
- **Provided detailed plans to improve filtration and product performance.**
- **Monitored the operations and provided technical assistance to assure continuous operation.**
- **Provided weekly service, monitoring and analysis of performance.**
- **Worked with mill personnel to ensure continuous operations at peak efficiency.**
- **Performed on-site technical tests to ensure maximum performance of fluid processes.**
- **Prepared reports, recorded and analyzed processes, collected usage data, and proposed cost savings initiatives.**
- **Provided appropriate utilization of Quaker resources when needed to assist in resolving technical issues.**

#### **Product & Process Expertise**

Quaker 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).

