

**OIL
FILTRATION
SYSTEMS®**

A CLARK-RELIANCE COMPANY

October 22, 2016

Location: Texas

CASE STUDY

“Mixer” Gearbox At Major Tire Manufacturing Facility

Problem:

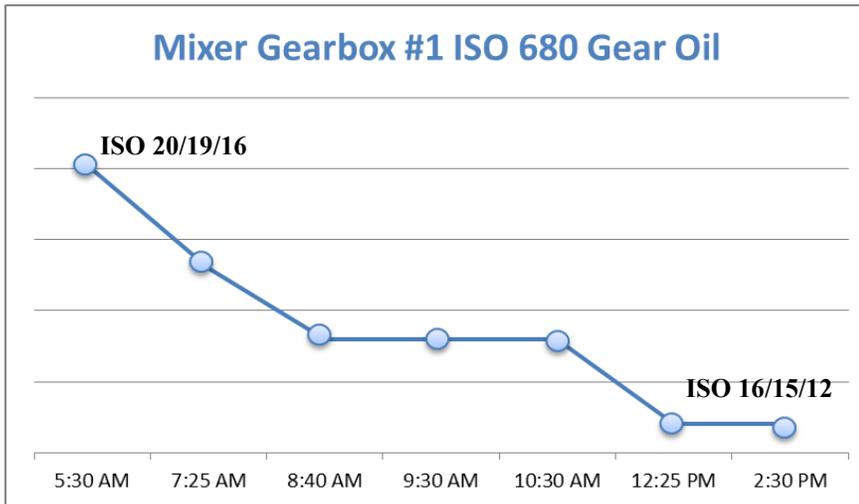
A large tire manufacturing facility in Texas has been experiencing high concentrations of particulate contamination in two of their critical “mixer” gearboxes. Several years ago they suffered catastrophic failure of a gearbox, which cost them over \$1M in repairs and down-time. This failure was traced to high levels of particulate contamination in the oil, so this company is now very focused on keeping the oil in their gearboxes as clean as possible. Mixer Gearbox #1 contains approximately 300 gallons of ISO 680 Gear Oil operating at 140F, and the particle count was ISO 20/19/16. Mixer Gearbox #2 contains approximately 200 gallons of ISO 320 Gear Oil operating at 120F, and the particle count was ISO 19/17/14.

Solution:

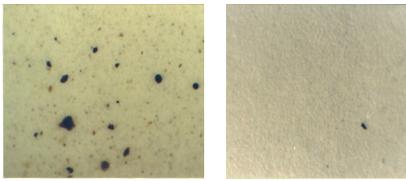
Target cleanliness levels were set at ISO 18/16/13. To achieve those results, the plant implemented a 10 GPM “Kidney Loop” Filter Skid on each gearbox, and the Filter Skid was loaded with a newly-developed “High Viscosity” 5-Micron pleated microglass filter element designed specifically for use with high viscosity gear oils. This “HVF Series” filter element from Oil Filtration Systems® has a proprietary blend of layered support media which results in lower particle counts and longer life in the most demanding high viscosity gear oil applications. Conventional filter elements experience significant media distortion in this application, and they struggle to maintain their integrity and performance for even a short period of time.

Mixer Gearbox #1 filtered continuously for 21 hours, and Mixer Gearbox #2 filtered continuously for 24 hours. The results were as follows:

Results:



**Representative 10 GPM
Portable Filtration System**



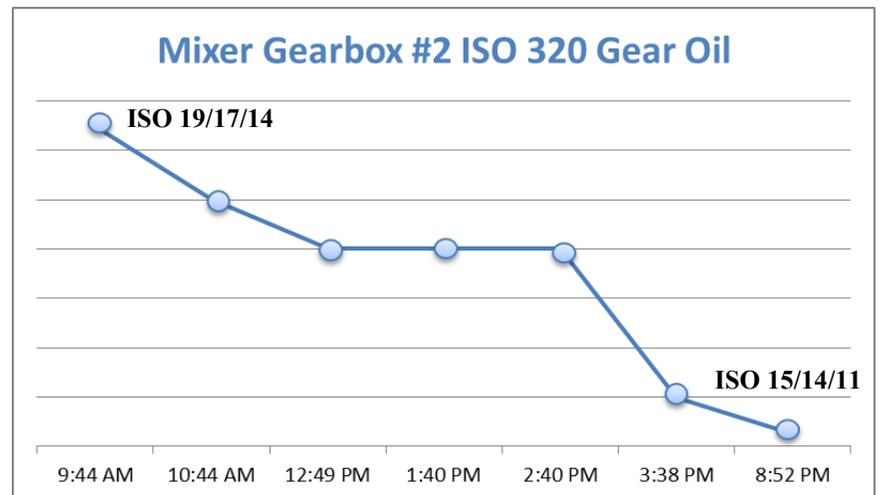
Samples of ISO 320 Gear Oil

LEFT: BEFORE

Particulate – ISO 19/17/14

RIGHT: AFTER

Particulate – ISO 15/14/11



Conclusion:

Even in the most dirty and demanding environments, high viscosity gear oil inside critical gearboxes can be maintained at target cleanliness levels of ISO 18/16/13 or better. Implementation of a “Kidney-Loop” Filter Skid loaded with special “HVF Series” filter elements from Oil Filtration Systems® will enable you to achieve those results.