

Streamlined Grease Sampling and Analysis for Detection of Wear, Oxidation and Mixed Greases

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Abstract

Oil analysis is well established as a routine tool to optimize maintenance activities, improve reliability and equipment life and prevent component failures. As part of a comprehensive Predictive or Condition Based Maintenance program, lubricant analysis is an effective complement to other diagnostic technologies such as vibration analysis, infrared thermography, ultrasonic detection and motor circuit evaluation. However, when the equipment is grease lubricated rather than oil lubricated, the important lubricant analysis piece is usually left out of the mix. However, new tools have been developed for improved sampling techniques and grease analysis tests to allow the inclusion of lubricant analysis for grease lubricated equipment. This paper will discuss the challenges and options to obtain representative and consistent grease samples from motors, motor operated valves, and other critical equipment, and a viable test slate for evaluating grease condition, wear and contamination, and grease mixing issues.

Summary

Grease analysis presents a significant opportunity to expand machinery diagnostic capabilities. The historical challenges of obtaining representative and trendable samples are being addressed through technological developments and new approaches. The further development of repeatable analysis methods that utilize smaller quantities of grease will produce greater value, and encourage the sampling of greases from locations where reliability is critical. By designing grease sampling equipment appropriately, the matter of proper grease purging may also be addressed through the establishment of sampling programs. Wherever there is a critical machine, regardless of configuration, the demand for reliability drives us to develop improved sampling methods to enable extracting the valuable information present in grease analysis.

If you are interested in reading the full white paper, please reach out to rjanosky@mrgcorp.com for the full document.