



OIL ANALYSIS TEST LAB

→ CAPABILITIES

- Trivector Analysis
- Infrared Spectroscopy
- Particle Count/Shape Recognition
- Elemental Analysis
- Viscosity Test
- Testing Packages

→ TRIVECTOR ANALYSIS

This test method is a good routine test for the overall condition of the oil, the cleanliness, and can indicate the presence of wear metals that could be coming from failing machine components.

- **Wear Analysis:** A ferrous index number represents the amount of magnetic metal particles within the oil. This may represent metals being worn from components (i.e. bearings, cylinders, etc)
- **Contamination:** An ISO cleanliness code represents the amount of different size particles found in the oil.
- **Chemistry:** A dielectric number is representative of the oils general chemistry properties.

→ INFRARED SPECTROSCOPY

Infrared Spectroscopy determines the molecular make-up of the oil and can determine the levels of key components like; water, oxidation by-products, nitration by-products, sulfation by-products, anti-wear additives, fuel, ethylene glycol (anti-freeze), and the total base number (TBN).

→ PARTICLE COUNT/SHAPE RECOGNITION

This test method utilizes a Spectro LNF Q200 to count particles in the oil and categorize the particles by their shapes. This test is good for finding how much contamination you have in your oil and helping you to understand what those particles might be.

→ ELEMENTAL ANALYSIS

This test method utilizes an OSA3 Metallab to identify and quantify the presence of a number of elements found in oil that correlate to contaminants, wear metals, and additives. This test is a good secondary test to use when a primary test has identified the presence of wear metals in your oil.

→ TESTING PACKAGES

Oil Chemistry & Contamination Package

This test package contains the Trivector Analysis test, Infrared Spectroscopy test, a Viscosity test, and a Water Crackle Test. This group of tests is designed to analyze the condition of the oil by monitoring changes in viscosity, contamination levels, and oil additive levels.

Wear Debris Package

This test package contains the Elemental Analysis test and the Particle Count/Shape Recognition test. This group of tests is designed to analyze the condition of the machine by analyzing the amount, shape, size, and type of particle found in the oil. Wear metal concentrations can help to narrow down the possible sources of the metal debris.

To purchase testing, visit the website at www.niar.wichita.edu/oilanalysis

→ CONTACT

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