TRIBOLOGIK®
NEWSLETTER

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April 2011

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Why Test your Coolant Fluid?

Most people don't pay much attention to the condition of their cooling system… until it's too late! Yet, over 40% of all maintenance problems on diesel engines can be attributed to poor maintenance of the cooling system.

Coolants are heat transfer fluids. They are used to evacuate heat (calories) from a system (engine) that generates too much heat compared to its capacity to evacuate it naturally.

Coolants allow for the raising of boiling temperature and/or improving resistance to frost. They usually consist of a mixture of water with ethylene glycol or propylene glycol. Coolants are good indicators when transferred into the zones that require refrigeration (engine, transmission).

Manufacturers usually recommend changing coolants after 2 years. Beyond three years (for instance) they lose their anti-corrosion and lubricating properties and, most of all, their anti freeze capabilities.

Consequences of Coolant Degradation

Freezing liquids increase in volume (just like water) and acquire a rock solid physical force strong enough to crack hoses, radiators and even break engine metal (cylinder head or cylinder block) to waste.

Antifreeze compounds decompose under high temperature, producing a corrosive acid in the cooling circuit. They are vulnerable to contamination by stain, oil, combustion gases, decomposition products, and to the decomposition products of the inhibitors as well.

Benefits of Coolant Analysis and Recommended Tests

As for oil, systematic analysis of cooling fluids allows for detection of wear signs in the cooling unit (radiator, water pump, heating, thermostat, the cooling fluid itself), as well as monitoring the alteration of its anticorrosive, anti tartar, anti acid and anti freeze properties over time.

The advantages of coolant testing may be summarized as follows:

- Prolongation of the useful life and reliability of the engine;
- Reduction of maintenance costs;
- Improvement of the lubricant's performance;
- Optimization of oil change intervals;
- Failure prevention;
- Precise indication on when to change coolant; and
- Identification of maintenance problems before failure.

We recommend the following tests for coolant analysis:

- pH;
- Wear elements;
- Additives components;
- Percent glycol/water;
- Density;
- Conductivity;
- Freezing and boiling temperatures;
- Total dissolved solids.

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Get your Test Report in CSI, ENTEK, XML Formats…

Oil testing and vibration analysis are two complementary tools used for the predictive maintenance of industrial equipment.

As an oil analysis laboratory, we have to work in conjunction with vibration engineers on a regular basis; therefore our oil test reports must be compatible with the vibration reports.

In response to customers who may be wondering whether vibration and oil analysis reports can be read in the same format or not, our answer is yes: in addition to formats such as PDF, which is the most requested, we can issue your oil analysis reports in any of the standard vibration formats, the most current being CSI and ENTEK.

We also publish them in XML format as well as other less widely used formats.

Just contact us and we'll make sure you get them in your preferred format.

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