Foam Testing of Hydraulic Oil

The importance of getting your Hydraulic oils checked for Foaming tendency and foaming stability is simply not taken serious enough. Foam testing is also extremely important if you are filtering your oils, you need to check and ensure that you are not filtering out the foaming package and helping aeration, overheating and oxidation of the oil.

Techenomics International’s laboratories analyze hydraulic oils by ASTM D892; this is a method of quantifying foaming characteristics of lubricating oils. Foaming is a common problem in hydraulic systems and splash lubrication applications, in severe cases; the foam can leak out of the machine through breathers and dipsticks. Fluids with foaming problems have a reduced cooling capacity which may contribute to overheating issues and accelerate oil degradation. The presence of foam in the fluid can lead to excessive oxidation and cavitations, the reduction of lubricating properties of the oil and performance of hydraulic systems.

Foam tendency and foam stability can both be measured via ASTM D892, Foam tendency describes the amount of foam generated immediately after the fluid is aerated, and the foam stability quantifies the amount of foam remaining 10 minutes after stopping of aeration.

Troubleshooting Foaming issues can be a challenging process, but Techenomics can help by a process of elimination, you should be able to then identify and correct the root cause.
Having Problems with Hydraulic Oil?

Many companies are experiencing problems with their Hydraulic oils due to either antioxidant depletion or foaming of the oil; these can lead to Hydraulic system failures or component failures. Antioxidants are vital to fluid integrity; a loss of antioxidants could result in sludge and deposit formation, filter blockages, oil thickening, and an increase in oil acidity. The antioxidants present in the additive package will significantly limit oil degradation from occurring but will be depleted in the process. Therefore, it is imperative to know the status of the antioxidants in oils being used in service. RULER® testing can inform you of any antioxidant depletion before it becomes a problem.

Oil aeration and foaming in the Hydraulic oil can also lead to failures, air entrapment can cause pump cavitations, erratic operations, component wear, low oil pressure, reduced viscosity and oxidation. Fluids with foaming problems have a reduced cooling capacity which may contribute to overheating issues and accelerate oil degradation. The presence of foam in the fluid can lead to excessive oxidation and cavitations, the reduction of lubricating properties of the oil and performance of hydraulic systems, it is vital to equipment health to have foaming testing performed on hydraulic oil samples.

Techenomics can offer a full suite of laboratory testing to monitor the fluid in your Hydraulic system

We offer analysis of:

- Wear Metals
- Additive metals
- Viscosity
- Viscosity Index
- PQ index
- Microscopic wear characterization
- Water content
- ISO Cleanliness rating
- Foam testing
- Acid number
- Oxidation

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Techenomics specialises in providing oil analysis services, and specialty lubricants to the mining industry.

By implementing a regular magnetic plug inspection program you will have a very low cost, effective and immediate early warning condition monitoring tool.

Techenomics filtration services can assist companies with the design and installation of a range of fuel and oil filtration solutions.