








Bulletin: 2007-006
Date: Sept 2007
Dept: Technology
Subject: Valvoline and Eaton Premium Hydraulic Fluid



TECHNICAL INFORMATION BULLETIN

When meeting specs is not always enough

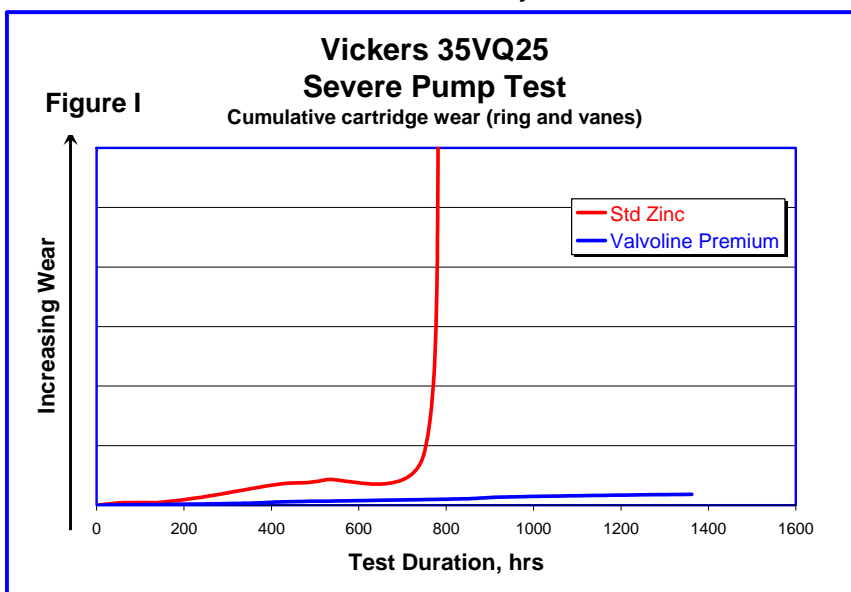
Not all hydraulic fluids are the same. Hydraulic fluids range in performance from basic to high-performance. The robustness and durability of the fluid affects its overall performance in protecting equipment. Quality hydraulic fluids must perform several duties to adequately protect equipment. Valvoline and Eaton Premium Hydraulic Fluid exceeds these expectations:

-  Anti-wear
-  Corrosion and rust inhibition
-  Anti-foam inhibitors
-  Demulsibility
-  Anti-leak

Valvoline and Eaton Premium Hydraulic Fluid is formulated to meet the most stringent demands. A combination of additive compounds has been specially created to enhance hydraulic system protection. Valvoline and Eaton Premium Hydraulic Fluid contains a unique anti-wear additive (zinc dithiodialkyl phosphate-ZDDP) that is very stable and resists decomposition in the presence of water. ZDDP acts to protect against wear of critical pump parts. The type and amount of zinc is crucial to the additional pump durability that a fluid can bring to a fluid's system. You can be confident in this protection under a full range of operating pressures and speeds. Lower quality ZDDP can form corrosive and insoluble by-products that can plug filters, stick valves, and attack and corrode yellow metals such as copper.

Figure 1 illustrates the strength of the Valvoline and Eaton Premium Hydraulic Fluid; exceeding test parameters by a large margin.

The Eaton-Vickers vane pump test ran for extended hours to determine enhanced performance of the Valvoline and Eaton fluid verses a conventional anti-wear hydraulic fluid.



Eaton 35VQ25 pump test ran for longer than 8X standard test length at full pump rating with elevated temperature and more severe operating conditions



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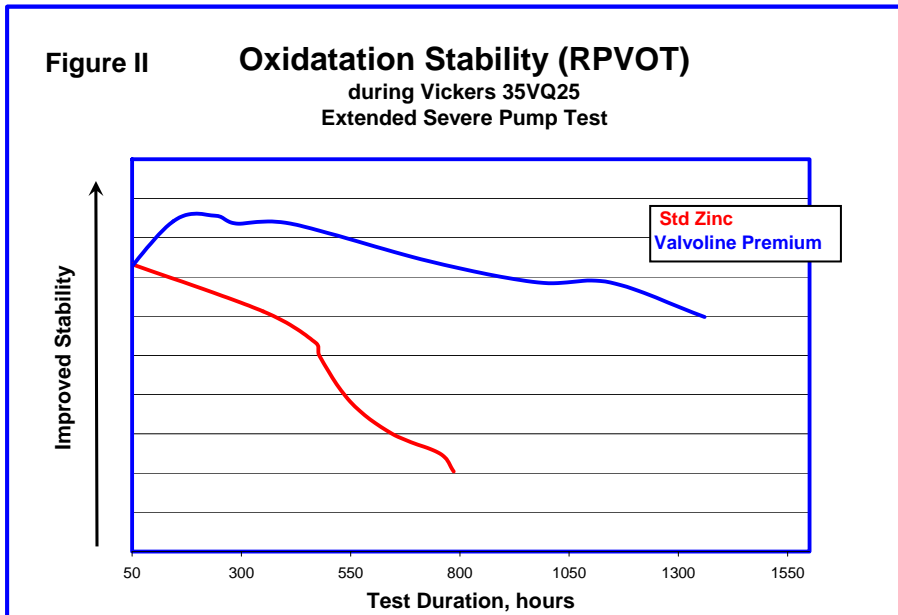
Both hydraulic fluids contain anti-wear additive systems. After more than 1,300 hours, the Valvoline and Eaton Premium Hydraulic Fluid results were still below the weight loss limit for total ring and vane wear.

Zinc dithiodialkyl phosphate (ZDDP) acts as an antioxidant to protect your fluid from oxidative breakdown and sludge formation, which can reduce the useful life of your fluid and equipment. Our premium hydraulic fluid provides longer fluid life and

reduced fluid disposal costs.

Figure 2 illustrates the improved stability of Valvoline and Eaton Premium Hydraulic Fluid.

Our premium hydraulic fluid offers you the peace of mind to keep your operations up and running, even under the most severe operating temperatures and pressures.



As measured by Rotary Pressure Vessel Oxidation Test

Valvoline and Eaton Premium Hydraulic Fluid benefits

- Consolidate product inventory and prevent product misapplication
- Meets the demanding *Eaton Premium Hydraulic Fluid Specification ES4272* and is suitable for other manufacturers, as well
- Recommended for stationary applications
- Increase productivity, equipment reliability, and service time. Improves hydraulic cleanliness condition, wear protection, and system life
- Extend equipment life through advanced corrosion protection; reduce oxidation and sludge formation accelerated by corrosion by-products
- Reduce oil purchase and disposal costs due to extended oil life
- Minimize environmental impact through extended drain intervals
- Environmental and safety designed to reduce seal leakage