ADDINOL
THE ART OF OIL • SINCE 1936

ADDINOL HV Eco Fluid: Focus on performance and energy efficiency

Your practical benefits

Hydraulic fluid

ADDINOL HV Eco Fluid is a hydraulic fluid on mineral oil basis for the use in a wide range of stationary and mobile applications. It is available in the viscosity grades 32, 46 and 68. With HV Eco Fluid 32 AF and 46 AF we offer a zinc-free formulation.

Distinct multi-grade characteristics

By using high-quality base oils with a high viscosity index in combination with a highly shear-stable VI improver ADDINOL HV Eco Fluid achieves an optimum viscosity-temperature behaviour. At low operating temperatures a quick and reliable oil circulation and at temperature peaks a load-bearing lubricating film is ensured. The optimised pumpability improves the reaction time and response behaviour of the units and the stable lubricating film effectively minimises wear and fatigue reactions.

Friction value and internal leakages

In operation, ADDINOL HV Eco Fluid achieves a constantly high power transmission with reduced energy input. The advanced additive technology minimises pump losses and internal leakages as well as friction between the components while at the same time providing high protection against wear and corrosion.

Best ageing stability

Modern hydraulic systems are characterised by compact designs, high pressures, reduced oil volumes, shorter residence times and reduced heat exchange. The resulting thermal loads promote oil ageing and the formation of deposits with negative effects on the performance of the system. ADDINOL HV Eco Fluid shows highest temperature and ageing stability as well as above-average shear stability and supports reliable pressure build-up and short reaction times of the system over long operating intervals.

Tried and tested

Exceed the requirements according to:

- DIN 51524-3
- ISO 11158 (HV)
- AFNOR NFE 48603 (HV)
- CETOP RP 91 H (HV)
- DIN EN ISO 6743-4 (HV)

Approvals:

- ISO VG 32: KraussMaffei Technologies
- ISO VG 46: KraussMaffei Technologies, Arburg GmbH & Co. KG, Engel Injection moulding machines

Cost reduction

High efficiency

ADDINOL HV Eco Fluid ensures optimum and stable power transmission in a wide temperature range. Efficiency and performance of the units are increased.

Oil intervals

ADDINOL HV Eco Fluid achieves long operating intervals thanks to highest ageing and shear stability at reliable operation of the units. Oil change intervals can be optimised and the amount of oil used is reduced in the long run.

Component lifetime

When using ADDINOL HV Eco Fluid, the hydraulic components are reliably protected against corrosion and wear in a wide temperature and load range. Material use, maintenance effort and downtimes are significantly reduced.

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INJECTION MOULDING OF DOMESTIC APPLIANCES

Reduction of energy consumption at safe operation and highest precision

Location
Romania

Machine type
Engel Victory
1350h/500W/260 combi

Oil volume
670 litres

Product
ADDINOL HV Eco Fluid 46
in comparison with competitive product

Test period
4 weeks each

Test conditions
Tool, raw materials and manufactured parts identical

Challenge

Pump force and pump pressure vary over the cycle of the injection moulding process with the different work stages. Sources of efficiency loss are mechanical, due to friction, and volumetric losses, due to internal leakages. Therefore, to increase the efficiency of the system, these two must be reduced in order to maximise pump performance.

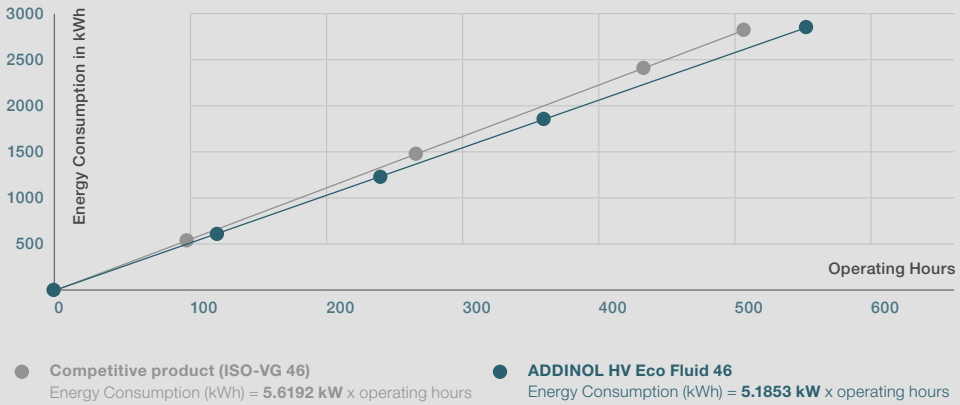
Test run

During a four-week test period within regular production, the energy consumption of a injection moulding machine was monitored and documented. The aim was to prove the energy saving potential through the use of a high-quality hydraulic oil. For this purpose, the plant was first operated with a competitor's product and then with **ADDINOL HV Eco Fluid 46** for four weeks each. During the test, the same mould was used and the same parts were produced from the same raw material. The total energy consumption was monitored through the electronic control unit of the injection moulding machine.

Result

With the application of **ADDINOL HV Eco Fluid 46,** an energy saving of 7.7 % could be achieved in the plant in Romania on the basis of the above-average viscosity-temperature behaviour and the optimal friction values.

Total energy consumption



Competitive product (ISO-VG 46)
Energy Consumption (kWh) = **5.6192 kW** x operating hours

ADDINOL HV Eco Fluid 46
Energy Consumption (kWh) = **5.1853 kW** x operating hours

Extra Tipp
Benefit with high-performance lubricants

From the experience of maintenance companies, 50 to 70 % of all failures are due to an »insufficient condition of the hydraulic fluid«. The most common cause of hydraulic failures is contamination in the form of solids. Water and air also disrupt reliable operation. These foreign substances are introduced by incorrect storage, maintenance work and tool changes, but also by ageing processes and abrasion.

Therefore, when selecting the hydraulic fluid, pay attention to its characteristic values. Purity class, filterability, demulsifying and foaming behaviour as well as air separation capacity characterise its quality. Only oils with good characteristic values achieve long operating intervals as well as optimum protection of the components and ensure efficient, reliable operation.

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