

The first of its kind – Powerful & environmentally acceptable

Your benefit in practice



Environmentally acceptable hydraulic fluid

ADDINOL NatureProof HLP EL are biodegradable hydraulic fluids based on saturated esters in combination with a high-performance, zinc-free additive technology. NatureProof HLP EL has been developed for applications in ecologically sensitive

areas such as water protection areas, agriculture, forestry and municipal services. Thanks to the innovative formulation, NatureProof HLP EL achieves the excellent performance parameters of ADDINOL high-performance hydraulic fluids.



Specifications

- DIN ISO 15380:2020-12 (ISO VG 32, 46)
- DIN 51524-2/-3 (HLP, HVL P)*

*TOST test in line with Bosch Rexroth

Technical machine requirements

The requirements for the use of hydraulic fluids are varied and increase with technical development. More compact designs, smaller oil volumes and construction-related characteristics (such as smaller lubricating gaps) mean higher temperatures, pressures and loads for the lubricant applied. In addition, the systems are often in use around the clock and operators have high demands on their efficiency.

ADDINOL NatureProof HLP EL in operation

- High shear stability
 - Reliable corrosion and wear protection
 - High technical stability
 - Lifetime lubrication and CO₂ savings
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- **Approval: Bosch Rexroth Fluid Rating List RDE 90245**



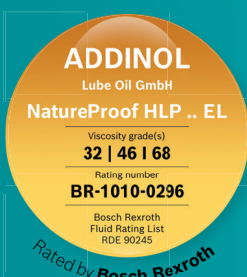
**Unique solution
for the best
from 2 WORLDS**

Requirements of the area of application

In ecologically sensitive areas, where lubricants can be released into the environment in the event of technical failure or leakages, their environmental compatibility must be ensured. This is the only way to prevent damage to flora and fauna as well as human beings. ADDINOL NatureProof HLP EL has been specifically developed for the strictest standards in environmentally sensitive areas.

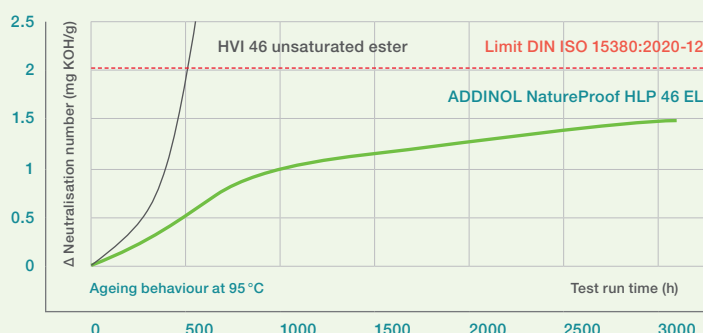
ADDINOL NatureProof HLP EL

- Biodegradability according to OECD 301 B > 60 %
 - Low ecotoxicity
 - Non-bioaccumulative
-
- EU Ecolabel DE/027/330 (ISO VG 32, 46, 68 running)
 - Listed on RISE list
 - Swedish Standard SS 15 54 34
 - U.S. EPA Vessel General Permit (VGP) and Vessel Incidental Discharge Act (VIDA)



Tailored to high loads and long application intervals

Increase in the neutralisation number of
ADDINOL NatureProof HLP 46 EL in comparison to
hydraulic oils based on unsaturated esters



Best protection against ageing

Oxidation stability under high pressure load plays an important role for long-term use and is simulated using the dry TOST test in accordance with ISO 4263-3. A significant increase in ageing products indicates when a reduced service life is to be expected.

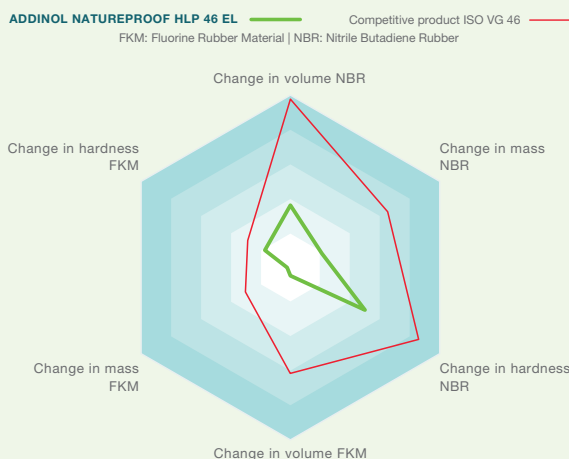
- Long service life: lower increase in oil acidification compared to products based on unsaturated esters
- No thickening: long-term stability of viscosity ensures reliable operation
- No deposits due to ageing products: no impairment of functionality

Elastomer compatibility

Sealing compatibility plays an important role in the use of hydraulic oils and must be tested before application. There are strict limits for the effects on volume and mechanical properties. As part of the Bosch Rexroth approval process, the sealing compatibility of the hydraulic fluid is also tested. Thanks to the excellent results of ADDINOL NatureProof HLP EL, the function of the sealings is not impaired by interactions with the fluid.

- Low volume effects due to swelling or shrinkage
- Minimisation of pressure losses
- Reduced risk of leakages
- High mechanical load capacity
- Ensures efficient operation

Influence of **ADDINOL NatureProof HLP EL** on sealing materials compared to competition



Load test passed

Bosch Rexroth as one of the leading manufacturers of hydraulic power units has developed its own motor and pump tests in order to simulate practical conditions when using high-pressure pumps and to test the properties of the fluids under extreme conditions. The requirements go far beyond the minimum requirements of DIN ISO 15380:2020-12. Thus, the reliable protection of the components against wear and fatigue is ensured and a stable operation is achieved. Only after successful completion of the extensive test procedure does the product receive approval in accordance with Fluid Rating List RDE 90245.

ADDINOL

Lube Oil GmbH

NatureProof HLP .. EL

Viscosity grade(s)

32 | 46 | 68

Rating number

BR-1010-0296

Bosch Rexroth
Fluid Rating List
RDE 90245

Rated by **Bosch Rexroth**

**ADDINOL NatureProof HLP 32 EL, 46 EL
and 68 EL** have passed these fluid rating
tests and proven their performance.