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Hydrosint AL

ISO 46

Very High Viscosity Index, synthetic, ash-less lubricant for hydraulic systems with anti-wear, antioxidant and antifoam additives. Excellent fluency at low temperatures and excellent resistance to high temperatures. (V.I. 160).

PAKELO HYDROSINT AL ISO 46 is a Very High Viscosity Index lubricant recommended for hydraulic systems.

The product is formulated with selected **synthetic** base stocks, high shear stable viscosity index improvers and an accurate Ash-Less additive package that provides anti-wear, antioxidant, antirust, anticorrosion and antifoam properties.

Thanks to its chemical and physical characteristics the product has been developed for the most modern hydraulic systems working even under severe conditions.

PAKELO HYDROSINT AL ISO 46 transfers power with great promptness and uniformity under all working and ambient conditions lengthening life of systems operating at high pressures, and/or at high pump speed (vane pumps, gear pumps, piston pumps, etc.).

The product provides the following properties:

- **Very High Viscosity Index** that enables minimum viscosity changes, if compared to common hydraulic lubricants, when the fluid is exposed to different operating temperatures;
- **high shear stability**: viscosity index improvers guarantee high resistance to mechanical stress and, during service, allow to maintain viscosities almost equivalent to new lubricant;
- **very low Pour Point** that enables easy start-ups at low temperatures;
- **high anti-wear properties** to increase efficiency, life of pumps and of the operating parts in the system;
- **ash-less additive package**, suitable also if there are pumps (i.e. LUCAS PM piston pumps with silver alloy components) with parts that can be spoiled by Zinc-Dithiophosphate additives traditionally used in hydraulic lubricants;
- **very high thermal stability**, also thanks to the use of synthetic base stocks, that allows the use of the product in hydraulic systems operating also at high temperatures and pressures without causing deposits and sludge;
- **high oxidative stability** that allows longer oil drain intervals and thus avoids early oil thickening;
- **high hydrolytic stability** which enables to protect the oil being used also when contaminated with small percentages of water;
- **good demulsivity**: the lubricant can easily separate from the water that could contaminate the system avoiding an accelerated process of oxidation;
- **high filterability** even with presence of water avoiding in this way filter plugging and guaranteeing longer filter life;
- **anticorrosion and antirust capability** to provide efficiently the protection of all metallic components of the hydraulic system;
- **antifoam properties** to avoid the presence of foam and air that reduce system efficiency due to the different compressibility ratio between lubricant and air/lubricant mix;
- **compatibility** with **gaskets** and **metals** normally used in hydraulic systems.

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Application fields

PAKELO HYDROSINT AL ISO 46 satisfies a wide range of applications, in terms of types of pumps (vane, gear, piston pumps, etc.), of metals used in the working system and of resistance to severe working conditions (high temperatures, pressure, etc.) which they may face without causing stress and/or decomposition.

The product has been specifically developed for hydraulic systems requiring, for correct functioning, ash-less lubricants with very High Viscosity Index, high mechanical resistance, low pour point, good anti-wear properties and high chemical stability at high temperatures.

The product is available in ISO 32, 46 and 68 Viscosity Grades.
For the correct Viscosity Grade selection please refer to pump's Constructor recommendations and ambient temperatures.

Performance levels

The additive package allows, in mineral version, to satisfy the following performance levels:
ISO 6743-4 HV, DIN 51524 Part 3 HVLP, Denison HF-0 / HF-1 / HF-2, Eaton Vickers I-286-S / M-2950-S, Cincinnati Machine P-68 / P-69 / P-70, U.S. Steel 127 / 136, General Motors (LS-2) LH-03-1 / LH-04-1 / LH-06-1.

ASTM D 6080 Classification

ISO VG 46 / L32 - 43 (160)

Chemical-Physical Characteristics

Hydrosint AL	Method analysis	Unit	Value ISO 46
Density at 15°C	ASTM D1298	kg/l	0,855
Kinematic Viscosity at 40°C	ASTM D445	cSt	46,8
Kinematic Viscosity at 100°C	ASTM D445	cSt	8,5
Viscosity Index	ASTM D2270	-	160
Kinematic Viscosity at 40°C after Sonic Shear	ASTM D445	cSt	43,0
Viscosity Index after Sonic Shear	ASTM D2270	-	157
FZG Failure Load Stage	ASTM D5182	Stage	12
Flash Point (C.O.C.)	ASTM D92	°C	230
Pour Point	ASTM D97	°C	-38
Temperature for Brookfield Viscosity of 750cP	ASTM D2983	°C	-12

The data just above refer to average values and must not be understood as guaranteed characteristics.

This Technical Data Sheet has been carefully checked to guarantee complete and precise information. However, we do not take any responsibility in case of damages caused by any mistakes or omissions. Due to continual product research and development, the information contained herein is subject to change without notification.