

RENOLIN B 46 PLUS

Premium, hydraulic oil for use in a wide range of hydraulic systems. Superior additives provide improved ageing resistance, corrosion protection and wear protection.

Description

The function and operational reliability of hydraulic systems depends largely on the quality of the hydraulic fluids used which, apart from transferring forces, must also seal, cool and lubricate. Because hydraulic oils are subject to a variety of stresses, they must fulfil a number of requirements. These must be maintained throughout the service life of the oil and must help combat the formation of undesirable reaction by-products.

The minimum requirements, which type HLP hydraulic oils must fulfil are contained in DIN 51 524, part 2. This standard describes this group of products as follows: HLP hydraulic oils are used mainly in hydraulic systems which, having hydrostatic drives, are subject to high thermal loading, corrosion due to the ingress of water, or need an oil which depending on the pump or hydro drive contains additives to reduce mixed friction wear.

The RENOLIN B PLUS series of oils are based on highly ageing resistant solvent raffinates and fulfil, in many cases even surpass, the minimum requirements made on HLP hydraulic oil.

Advantages/Benefits

Excellent Oxidation Stability & Resistance to Ageing

Oil temperatures of over 80°C can occur in high pressure systems, especially if the volume of the tank is small. Insufficient oxidation stability can lead to the formation of damaging by-products, which acidify the oil.

This in turn causes polymerisation, which increases the viscosity of the oil and leaves lacquer-like deposits on valves and control units.

The RENOLIN B PLUS series of oils is based on high grade, special raffinates and contain additives, which improve their resistance to ageing. As these are long-life characteristics, they also increase the service life of the products.

Good demulsifying properties

Operators of large hydraulic systems usually require good separation of dragged-in water or condensation from the hydraulic fluid so that this water can be removed via drainage taps or valves. All RENOLIN B PLUS oils separate water rapidly and avoid the formation of water and oil sludge.

Good Viscosity-Temperature Behaviour

The more the working temperature of the hydraulic systems vary, the greater the significance of the oil's viscosity behaviour. Hydraulic pump manufacturers point out in their operating manuals that pumps can only generate the specified working pressure if the viscosity of the hydraulic oil remains within a certain range. The good viscosity-temperature behaviour of the RENOLIN B PLUS series of oils guarantees rapid and reliable start-up as well as sufficient viscosity of higher running temperatures. The latter ensures that a protective lubricating film is formed on all moving parts, that reliability is increased and that the oil provides sufficient sealing in the hydraulic system.

Good AW Properties/Protection against Wear

One of the functions of hydraulic oils is to perform complex, wear-reducing lubricating functions in machinery such as pumps, bearings and other highly stressed components. The efficiency and service life of such machinery depends largely on the protection the oil provides in mixed friction zones. The RENOLIN B PLUS series of oils contain AW additives, which reduce friction and thus, protect sliding surfaces against wear. The DIN 51 359 – Mechanical testing of hydraulic fluids in rotary vane pumps – tests the anti-wear properties of hydraulic fluids. All oils in the RENOLIN B PLUS series of oils passed this test and all achieved load stage 12 in FZG Gear Rig Test (A/8 3/90 DIN 51 354).

Good Elastomer Compatibility

Elastomers used in hydraulic systems must neither shrink nor swell when in contact with hydraulic fluid. To fulfil this specification, the RENOLIN B PLUS series of oils and such elastomers are tested for 168 hours at 100°C (DIN 53 505). The materials tested are SRENBR1 standard reference elastomer (DIN 51 524) and vulcanised butanol acrylonitrile. Seal material manufacturers as a rule use the values obtained from these materials to evaluate the compatibility of other elastomers with the hydraulic fluid being tested. As the values indicate, elastomers show good compatibility with the RENOLIN B PLUS series of oils.

Excellent Corrosion Protection

Condensation can form in the machines oil tank when the hydraulic fluid cools, which in turn, can lead to corrosion and wear. Metallic particles in the oil act as a catalyst, which accelerates the oxidation of the oil. The RENOLIN B PLUS series of oils contain surface-active ingredients, which wet steels and non-ferrous metal surfaces, and protects them from corrosion when water is present.

Good De-aeration & Low Foaming

The base oils used in the formulation of the RENOLIN B PLUS series of oils ensure rapid, natural de-aeration. This eliminates problems stemming from too much air being trapped in the oil. Such air is released quickly and the foam, which occurs when this happens, also collapses quickly.

Specifications

- DIN 51524-2: HLP
- AFNOR E48-603
- Bosch Rexroth
- Cincinnati Milacron P-68, P-69, P-70
- US Steel 126, 127
- Denison HF-1, HF-2, HF-0
- Racine, variable volume vane pumps
- Sauer Danfoss
- Ford M-6C32
- Vickers I 286-S, M 2950-S

The RENOLIN B PLUS series of oils are suitable not only as high-grade hydraulic oils, but are also excellent lubricating oils, which can be used for numerous applications such as gearboxes, bearings and general lubrication

Product Information



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CHARACTERISTICS

Appearance	Visual	Clear & Bright yellow fluid	N/A
Kinematic Viscosity @ 40 °C	ASTM D445	46	cSt
Kinematic Viscosity @ 100 °C	ASTM D445	6.75	cSt
Viscosity Index	ASTM D2270	100	N/A
Density @ 15 °C	ISO 12185	0.885	Kg/L
Flash Point PMC	ASTM D93	>185	°C
Pour Point	ASTM D97	-27	°C
Total Acid number	ASTM D974	0.1	mg KOH/g
Saponification Number	ASTM D94	1.2	mg KOH/g
Sulfated Ash	ASTM D874	0.2	%w/w

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