Indol® EH

Emulsifying Anti-Wear Hydraulic Oil
ISO 46

General Description

Indol® EH is a premium emulsifying, high zinc, anti-wear ISO 46 hydraulic oil. It is designed to meet the hydraulic performance requirements of major construction equipment builders and others requiring the use of an anti-wear hydraulic oil that will encapsulate or emulsify small amounts of water in the hydraulic system.

This oil is specially formulated with the highest quality HCG-2 base oils to provide outstanding oxidation and thermal stability. The addition of the uniquely balanced additive systems ensures total anti-wear, oxidation, thermal and hydrolytic stability along with rust, corrosion and anti-foam protection.

Indol EH is designed to deliver outstanding wet filterability performance. The special emulsifier soaks up water that may enter the system and aids in sludge control, while preventing water damage. Its exceptional air release capability also reduces pump cavitation damage.

Indol EH is a straight grade oil, so it does not contain a viscosity modifier, however, the oil still provides low temperature performance enabling good startups and holding the viscosity over the toughest operating conditions.

Features and Benefits

- **Wear Protection:** The high zinc, anti-wear technology provides exceptional film strength resulting in longer pump life by minimizing wear in high speed, high pressure vane, gear and piston pumps using various metallurgies.
- **Oxidation Control:** Excellent oxidation and thermal stability reduces sludge, varnish and carbon deposits providing protection of critical hydraulic components while extending oil and equipment life.
- **Filterability:** Superior wet filterability performance provides protection against deposits and filter plugging to do more effective filtering.
- **Rust and Corrosion Protection:** Outstanding rust and corrosion prevention in the presence of moisture.
- **Foam Control:** A balanced anti-foam system promotes rapid air release and minimizes foam.
- **Viscosity Stability:** The outstanding shear stability provides exceptional viscosity control resulting in consistent operation.
- **Reserve Quality:** Ability to maximize oil life and equipment performance over a wide range of operating conditions.

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Typical Applications

- Cat® HYDO™ Advanced 10
- OEM hydraulic system requiring oil that will emulsify (hold water in the oil) with water
- Competitive zinc containing anti-wear hydraulic oil that claims to emulsify water
- Denison HF-0, HF-1, HF-2
- Cincinnati Lamb P-70
- Bosch- Rexroth RE 90220
- Eaton Vickers (35VQ25) I-286-S, M2950-S
- USS 127
- DIN 51524-2 and ISO 11158
- ASTM D-943 Oxidation Test > 5,000 Hrs
- DIN HLP

Typical Customers

- Construction/mobile and industrial hydraulic systems calling for a premium emulsifying anti- wear hydraulic oil

Health & Safety: A complete safety data sheet is available by calling 1-651-355-8438 or visit cenex.com/sds-library.

Typical Properties

ISO Grade	**46**
SAE Grade	10
API Gravity / lbs./gal.	31.9 / 7.21
Viscosity @ 100°C, cSt @ 40°C, cSt	6.9 46.0
Viscosity Index	104
Pour Point, °C /°F	-39 / -38
MRV@ -30°C, cP	13,500
FZG gear test, stages	13
Zinc, % wt.	0.10
D-665A/B Rust Test	Pass
D-130 Copper Protection	Pass

The typical properties listed reflect the general characteristics of the product and are not manufacturing specifications. Normal batch-to-batch variations should be expected.

Performance Tests	**Test Method**	**Indol EH**	**Cat® HYDO™ Advanced 10**
ISO/SAE Grade		ISO 46/10	ISO 46/10
Viscosity cSt @40°C cSt @100°C	D445 D445	46.0 7.0	42.0 6.7
Viscosity Index	D2270	104	114
Viscosity after Shear	In Use	6.9	6.7
MRV Cold Temperature pumping @-30°C	D4684	13,500	15,000
Pour Point °C	D97	-39	-39
FZG Gear Test	DIN 51534	13	12
Vickers 35VQ25 Pump Test, total wear mg		32	33
4 Ball Wear Test, mm	D4172	0.41	0.37
Zinc, % wt.	ICP	0.10	0.09
Copper Strip Corrosion Protection (3hr@150°C)	D130	1A	1A
Rust Protection, Salt Water	D665B	Pass	Pass
Oxidation Stability	D943	>5,000	>5,000
Filterability, Wet	ISO 13357-1	Pass	Pass
Air Release @ 50°C in minutes	D-3427	3.6	4
Foam Test Seq 1, 2, 3	D892	Pass	Pass
Cleanliness		Yes	Yes
Extended Drain Capable		Yes	Yes
Ability to keep water in emulsion		Yes	Yes