



## Hydraulic Oils

Eco Ultra® Hydraulic Oils are superior anti-wear hydraulic and circulating fluids blended with highly re-refined Group II base oils. These hydraulic oils provide outstanding resistance to sludge formation and exhibit excellent antiwear protection. Rust and oxidation preventive capabilities, including superior demulsibility properties, make these oils rugged, even in high-output systems. These oils also feature excellent vane pump and piston pump performance, anti-foam characteristics and superior hydrolytic stability. In addition to having excellent performance these oils also exhibit inherently biodegradability characteristics.

Eco Ultra Hydraulic Oils resist deterioration and perform at superior levels, even at high operating temperatures, pressures and speeds and low pour point ensures easy system start-up in cold conditions.

<u>PROPERTY</u>	<u>ASTM TEST METHOD</u>	<u>ISO 32</u>	<u>ISO 46</u>	<u>ISO 68</u>	<u>ISO 10W-40</u>
Viscosity @ 40°C, cSt	D-445	32.9	46.5	68	110
Viscosity @ 100°C, cSt	D-445	5.5	6.8	8.5	14.8
Viscosity Index	D-2270	102	100	95	130
Flash Point, COC, °C	D-92	212	220	242	212
Flash Point, COC, °F	D-92	414	428	468	414
Pour Point, °C	D-97	-34	-30	-24	-30
Pour Point, °F	D-97	-30	-22	-11	-22
Color	D-1500	1.0	1.0	1.5	1.5
Gravity, °API	D-4052	31.3	30.4	29.3	30
Dielectric Strength, kV		35	35	35	35
Turbine Oil Oxidation	D-943	3680	3540	3500	3500
Rust Test	D-665	Pass	Pass	Pass	Pass
Emulsion Test	D-140	40-40-0	40-40-0	40-40-0	40-40-0
Biodegradability %	D-5864	28.2	28.0	28.0	

Meets or exceeds the following tests and requirements:

- AFNOR E 48-603
- ASTM D6158 HL, HM, HMHP
- B.F. Goodrich – 0152
- Bosch Rexroth – RDE 90235
- Fives Cincinnati – P-68, P-69, P-70 (light hydraulic oils)
- Danieli – 0.000.001 Type 10 & 11
- DIN – 51524, Part 1 HL, Part 2 HLP
- Eaton Brochure – 03-401-2010, EFDGN-TB002-E
- Eaton Vickers – I-286-S, M-2950-S, 35VQ25
- FMC – High-Performance Hydraulic Oil
- Ford – M-6C32
- General Motors – LH-04-1, LH-06-1, LH-15-1, LS-2
- ISO 11158 HL, HM
- Jeffrey – #87
- Lee Norse 100-1
- Parker Denison – HF-0, HF-1, HF-2
- Racine – Model S, variable volume vane pump
- SAE MS 1004
- U.S. Steel – 136, 127, 126
- ZF – TE-ML 07H, TE-ML 21
- Inherently Biodegradable

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