

## EcoClear Hydraulic Oils

ISO Grades 22, 32, 46, 68, 100

### Product Description

EcoClear Hydraulic Oils have outstanding stability and anti-wear characteristics designed to meet the demanding requirements of major manufacturers and users of hydraulic equipment located in ecologic sensitive areas. These oils are zinc-free, environmentally friendly and distinguished by their clear appearance and clarity retention in operating systems, good rust protection, low deposit formation, rapid release of entrained air, oxidation resistance, low pour points, and good antifoam properties.

### Applications

Recommended for critical application of van and gear pumps operated at elevated pressure levels, i.e. in excess of 6,900 kPa or 1000 psi. For systems incorporating axial piston pumps with pressures in excess of 3500 psi, these oils can be used where the manufacturer specifies anti-wear hydraulic oils. These oils are very effective in reducing pump wear, satisfying lubrication requirements of auxiliary system components, and greatly extending the life of systems operating at high loads, speeds, and temperatures. All ISO Grades satisfy requirements of Vickers I-286-S and M-2950-S; Cincinnati Milacron specifications P-68, P69, and P-70. They meet Denison HF-0 and HF-2 requirements. They are suitable for hydraulics operating in the forest industry, dredges, cranes and other hydraulic equipment on offshore drilling and production facilities. Dielectric strength is warranted at the origin and can be maintained providing low moisture contents are sustained and agitation under humid conditions are minimized.

### Typical Properties

Property	ISO 22	ISO 32	ISO 46	ISO 68	ISO 100
Color, ASTM D-1500	<0.5	<0.5	<0.5	<0.5	<0.5
Appearance	Water Clear	Water Clear	Water Clear	Water Clear	Water Clear
Viscosity, cSt @ 40°C	20.51	31.71	46.5	67.2	100.0
Viscosity, cSt @ 100°C	4.15	5.3	6.8	8.6	11.2
Viscosity Index	103	100	99	98	97
Flash Point, COC (°F)	400	400	410	425	450
Pour Point (°F)	-25	-35	-25	-20	-5
Neutralization No., ASTM D 974	0.55	0.55	0.55	0.55	0.55
Gravity, API @ 60°F	34.3	33.1	32.4	31.6	30.6
Rust Test, ASTM D-665A/B	No Rust	No Rust	No Rust	No Rust	No Rust
Emulsion Test, ASTM D-1401	10 Min	10 Min	10 Min	10 Min	10 Min
Dielectric Strength, ASTM D-877	35KV	35KV	35KV	35KV	35KV
Oxidation Life, ASTM D-943 (hrs to 2.0 TAN)	6,000	6,000	6,000	6,000	6,000

\*The values shown are typical of current production. Some are controlled in the manufacturing process while others are not. All of them may vary within tolerable ranges.