



Orelube®

**technical
information**

HA HYDRAULIC FLUIDS

ANTIWEAR HYDRAULIC FLUIDS

Description

Orelube HA HYDRAULIC FLUIDS are antiwear hydraulic fluids blended to meet the toughest requirements of major manufacturers and users of hydraulic equipment. They will reduce vane and gear pump wear in systems operating at high loads, speeds and temperatures. Their specialized additive package allows use in severe service hydraulic systems using axial and radial piston pumps.

HA HYDRAULIC FLUIDS have outstanding rust protection, low deposit formation, superior demulsibility, oxidation resistance, low pour points and non-foaming properties. They are non-corrosive to metal alloys and are fully compatible with common seal materials.

HA HYDRAULIC FLUIDS exceed:

- Denison HF-O and HF-2 requirements
- Vickers industrial and mobile applications
- Cincinnati Milacron P-68, P-69 and P-70 specifications
- Sperry Vickers I-286-S

Benefits

- Blend of highly-refined, hydrotreated, high VI paraffin base oils
- High film strength
- Superior resistance to oil oxidation
- Non-gumming
- Rust and corrosion protection
- Special polymer antifoam agent prevents foam formation and inhibits oil oxidation by allowing entrained air to release quickly from the system
- Substantially reduces wear on frictional surfaces
- Exceptional demulsibility separating readily from water



Typical Properties

	1	2	3	4	5
ISO Grade	32	46	68	100	150
Viscosity, ASTM D-445					
cSt @ 40 C	31.9	44.2	66.2	97.2	152.6
cSt @ 100 C	5.3	6.5	8.4	10.9	14.8
Flash Point, F	402	420	430	465	510
Pour Point, F	-20	-20	-15	-15	-10
Foam Characteristics, ASTM D-892					
Seq. 1, 2 and 3, ml	0/0	0/0	0/0	0/0	0/0
Copper Corrosion, ASTM D-130					
3 hrs @ 100 C	1a	1a	1a	1a	1a
Rust Test, ASTM D-665 A and B	Pass	Pass	Pass	Pass	Pass
Hydrolytic Stability, ASTM D-2619					
max. copper wt. loss, mg/cm ²	0.2	0.2	0.2	0.2	0.2
Vickers 35VQ25 Pump Test	Pass	Pass	Pass	Pass	Pass
Vane Pump Test, ASTM D-2882					
max. ring and vane wt. loss, mg	20.0	20.0	20.0	20.0	20.0
Denison P46 Pump Test	Pass	Pass	Pass	Pass	Pass
Denison T5D42 Pump Test	Pass	Pass	Pass	Pass	Pass

