

161 MOLY AIRLINE OIL ISO 22, 32, 46

Moly Airline Oil is a premium quality anti-wear, rust and oxidation inhibited oil that is specially formulated for use in all types of low pressure and high pressure airlines and pneumatic air tool systems. Moly Airline Oil is particularly suited for applications where excessive operating temperatures are seen and protection against the formation of varnish deposits on close clearance servo-valves and other system components is critical.

Moly Airline Oil is blended from the finest high viscosity index solvent refined, severely hydro-finished 100% pure paraffin base stocks available and VarniShield®, a patented hydraulic fluid additive technology to provide the following performance characteristics:

PERFORMANCE

- Enhanced fluid and seal life for reduced system maintenance.
- Enhanced thermal and oxidative stability. Superior hydrolytic stability.
- Excellent operating temperature reduction. Superior chemical stability.
- Excellent demulsibility characteristics so water separates quickly.
- Excellent anti-foaming and air release properties.
- Excellent fluid quality reserve to maintain its performance features even under severe service conditions and extended drain intervals.

DEPOSIT PROTECTION

- Reduced sludge, varnish and deposit formation.
- Reduced filter blockage with excellent filterability.
- Enhanced compatibility with existing fluids.
- Low carbon forming tendencies.

WEAR PROTECTION

- Exceptional and long lasting anti-wear protection to protect system components.
- Extended pump and bearing life.
- Excellent rust and corrosion protection that extends component life and protects multi-metallurgy components.
- Improved durability of non-ferrous parts.

VarniShield® is a patented hydraulic fluid additive technology that is designed to prevent the formation and the build up of varnish deposits, while providing exceptional anti-wear performance, outstanding thermal and oxidation stability, rust and corrosion protection and rapid water separation. The VarniShield® additive system provides Moly Airline Oil with a high degree of thermal and oxidative stability thus minimizing the formation of sludge and varnish. If any varnish particles do form, the dispersancy of the VarniShield® additive will keep these particles suspended and prevent them from depositing on critical internal components.

Moly Airline Oil's anti-wear capabilities are further enhanced by the addition of Micron Moly®. Micron Moly® is a liquid soluble type of moly that plates itself to the sliding, rolling and rubbing metal surfaces of the hydraulic and compressor systems. This plating action forms a long lasting solid lubricant film on these rubbing, rolling and sliding surfaces which will withstand pressures up to 500,000 pounds per square inch. Once plated Micron Moly® not only produces a smooth finish surface, but also reduces friction between the moving parts which results in less heat and less wear to result in less downtime.

Moly Airline Oil meets and exceeds the following OEM lubrication requirements: Copper Power Tools, Ingersoll Rand, Intool (formerly Dresser), Stanley Air Tools, Cleveland Vibrator, Aro Corporation, Pruderer Machine, Bicknell Manufacturer, Kent Air Tool, Merrick Machine.

TYPICAL PROPERTIES

ISO Grade	22	32	46
AGMA Grade	----	----	1
Specific Gravity 60°F	0.8468	0.8598	0.8638
Viscosity SUS 100°F (ASTM D445)	105-122	155-207	123-250
Viscosity cSt 40°C (ASTM D445)	20.00-23.5	30-40	41.40-48.50
Viscosity cSt 100°C (ASTM D445)	4.0-4.5	5.0-6.0	6.2-7.1
Viscosity Index (ASTM D2270)	98	100	100
Flash Point °F/°C (ASTM D92)	400°/204°	410°/210°	410°/210°
Pour Point °F/°C (ASTM D97)	-25°/-32°	-10°/-23°	0°/-18°
Aniline Point °F/°C (ASTM D611)	220°/104°	220°/104°	228°/109°
Total Acid Number (ASTM D664)	0.91	0.91	0.91
Copper Strip Corrosion Test 3 hrs. (ASTM D130)	1A	1A	1A
Rust Test (ASTM D665)			
Procedure A (Distilled Water)	Pass	Pass	Pass
Procedure B (St Water)	Pass	Pass	Pass
Four Ball EP Test (ASTM D2783)			
Weld Point, kg	126	160	160
Four Ball Wear Test (ASTM D4172)(1hr/40kg/130°)			
Mean Scar Diameter, mm	0.4	0.4	0.4
Four Ball Wear Test (ASTM D4172)(1hr/20kg/130°)			
Mean Scar Diameter, mm	----	.27	.27
Falex Continuous Load lbs. (ASTM D3233)			
Failure Load, lbs.	----	1250	1250
Conradson Carbon Residue (ASTM D189)% Residue	0.3	0.3	0.3
Foam Tendency (ASTM D892)			
Sequence I	0/0	0/0	0/0
Sequence II	0/0	0/0	0/0
Sequence III	0/0	0/0	0/0
FZG Test (ASTM D5182) Load Stage Pass	----	12 TH	12 TH
Hydrolytic Stability (ASTM D2619)			
Copper Wt. Loss mg/cm ²	0.0556	0.0566	0.0566
Acidity of Water mg/KOH	0	0	0
Demulsibility Test (ASTM D1401)			
O-W-E	40-40-0	40-40-0	40-40-0
Time, min	15	15	15
Denison Filterability Test TP-02100			
Filtration Time, without water (seconds)	----	146	146
Filtration Time with 2% water (seconds)	----	163	163
Oxidation Stability Test (ASTM D943)			
Hours to TAN of 2	3500+	3500+	3500+
Sludge Tendencies (ASTM D4310)			
Neutralization Number after 1000 hours	0.34	0.34	0.34
Insoluble Sludge, Total Copper, mg.	39.4	39.4	39.4
Total Copper, mg	0.1	0.1	0.1
Thermal Stability Test (ASTM D2070)			
168 hr/135°C, copper/Steel Catalyst			
Sludge (mg/100ml)	1.8	1.8	1.8
Copper weight loss, mg/100ml	0.2	0.2	0.2
Condition of Copper rod	3	3	3
Air Release (ASTM D3427)			
Time, (Min. @ 122°F)	6.2	6.2	6.2
Denison T6H20C Hybrid Pump Test			
Phase 1 1700 rpm 230°F/110°C weight loss	---	5.1	5.1
Phase 2 1700 rpm 176°F/80°C + 1% water	---	5.8	5.8
Vickers 35VQ25 Pump Test			
Total Wt. Loss Vane, mg	----	5	5
Total Wt. Loss Ring, mg	----	11	11
Total Wt. Loss, mg		16	16