



# **TECHNICAL DATA**

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## **#127 MOLY ROCK DRILL OIL SAE 10W THROUGH 50**

Moly Rock Drill Oil is an anti-wear, extreme pressure emulsifiable oil that is specially formulated to meet the lubrication requirements of high speed, heavily loaded rock drills, drifters, hammers and other pneumatically operated equipment.

Moly Rock Drill Oil is blended from the finest high viscosity index solvent refined severely hydro-finished 100% paraffin base stocks available. These paraffin base stocks allow the Moly Rock Drill Oil the ability to operate over wide temperature ranges. They also provide the Moly Rock Drill Oil with excellent thermal stability, along with excellent resistance to oxidation.

Blended into these paraffin base stocks is a non-corrosive additive package which provides the Moly Rock Drill Oil with exceptional extreme pressure qualities. This non-corrosive additive package also maximizes the rust and oxidation inhibiting characteristics of the oil.

The moving parts of a rock drill are designed to perform under hydrodynamic lubrication conditions. That is, a full fluid film must separate the metal surfaces of the moving parts during operation. However, during periods of cold start up or severe shock loads, this film can be destroyed. Unless a boundary lubricant is present in the Rock Drill Oil when this full fluid film is destroyed, wear can take place.

To prevent this wear, molybdenum disulfide is further blended into the Moly Rock Drill Oil. The molybdenum disulfide provides the boundary lubrication needed by plating itself to the metal surfaces of the rifle bars, drill pistons and cylinders of the rock drill. This moly film will withstand pressures up to 500,000 pounds per square inch, thus reducing wear and extending equipment life.

The molybdenum disulfide also provides a smooth finished surface on all moving parts of the rock drill. This minimizes the action of cold welding, which can occur during cold start up after the rock drill has been standing idle.

Moly Rock Drill Oil also contains rust and corrosion inhibitors and emulsifiers. These emulsifiers assure the formation of a stable emulsion which allows for lubrication in the presence of water along with the prevention of any foaming that may occur.

Typical Properties on Next Page

TD-127 (Rev. 3/93)

## TYPICAL PROPERTIES

SAE Grade	10	20	30	40	50
ISO Grade	32/46	68	100	150	150/220
API Gravity	31	30	28	27.8	27.4
Viscosity 100°F SUS (ASTM D-445)	200	380	550	750	925
Viscosity 210°F SUS (ASTM D-445)	46	57	68	76	90
Viscosity 100°F Cst (ASTM D-445)	43	82	118.8	161.8	199.6
Viscosity 210°F Cst (ASTM D-445)	6.05	9.37	12.42	14.52	17.98
Viscosity 40°C (ASTM D-445)	38.81	73.23	105.69	142.76	176.35
Viscosity Index (ASTM D-2270)	95	95	105	105	110
Flash Point °F/°C (ASTM D-92)	420°/215.5°	435°/223.9°	480°/248.9°	490°/254.4°	510°/265.5°
Fire Point °F/°C (ASTM D-92)	460°/238°	470°/243.4°	510°/265.5°	540°/282.2°	550°/288°
Pour Point °F/°C (ASTM D-97)	-25°/-31.7°	-15°/-26°	0°/-18°	10°/-12.2°	15°/-9.4°
Copper Strip Corrosion Test					
3 hrs. (ASTM D-130)	1a	1a	1a	1a	1a
Four Ball E.P. Test (ASTM D-2783)					
Weld Point, kg	315	315	315	315	315
Load Wear Index, kg	52.86	52.86	53	53	53
Four Ball Wear Test (ASTM D-2266)					
Scar Diameter	.45	.45	.45	.45	.45
Oxidation Test (ASTM D-2893)					
% Viscosity Increase after 312 hrs. @ 95°C	5%	5%	5%	5%	5%
Rust Test (ASTM D-663)					
Procedure A (Distilled Water)	Pass	Pass	Pass	Pass	Pass
Procedure B (Salt Water)	Pass	Pass	Pass	Pass	Pass
Foam Tendency (ASTM D-892)	Pass	Pass	Pass	Pass	Pass
Gardner Denver Film Strength Test					
PSI:					
Ground Bearing	300,000	300,000	300,000	300,000	300,000
Chrome Plated Bearing	300,000	300,000	300,000	300,000	300,000
Sanitized Bearing	300,000	300,000	300,000	300,000	300,000
Pin Wear, mm:					
Ground Bearing	.017	.017	.017	.017	.017
Chrome Plated Bearing	.013	.013	.013	.013	.013
Sanitized Bearing	.013	.013	.013	.013	.013

Packaging: #127 Moly Rock Drill Oil is available in 55 gallon drums, 30 gallon drums and 5 gallon pails.