

INTRODUCTION

Petro-Canada Lubricants' ARDEE Oils are specially formulated to lubricate and cool the mechanisms of air-operated rock drills. ARDEE Oils are blended from ultra pure Petro-Canada Lubricants' HT Severely Hydrocracked base oils and a carefully balanced set of lubricant additives to give the best possible performance in tough rock drill applications. ARDEE oils are formulated with non-chlorinated, ashless additives minimizing environmental impact in case of release and eliminating disposal concerns.

FEATURES AND BENEFITS

High film strength and lubricity

- Reduces scoring failures during sudden high pressure sliding
- Minimizes wear due to repeated heavy loading
- EP protection prevents welding or scoring under constant shock loading

Long-term rust and corrosion protection

- Protects iron parts from rusting during constant exposure to moisture
- Reduces chemical attack on bronze or brass components

Good emulsifying characteristics

- Maintains a continuous lubricant film on metal surfaces
- Reduces water from displacing the lubricant and wetting the metal surface

Excellent adhesive properties

- Oil sticks firmly to cylinder walls and other drill parts under the most adverse conditions
- Constant oil film minimizes wear to cylinders and other drill parts

Low misting tendency

- Reduces undesirable misting
- Lowers oil consumption

Resists forming carbon at high temperatures

- Lowers tendency of drills to diesel (to combust) during severe operations

APPLICATIONS

Petro-Canada Lubricants' ARDEE Oils are designed for use in pneumatic percussion equipment operated at high cubic feet per minute (CFM) air flow rates. They can also be used in all types of equipment lubricated with in-line oilers.

ARDEE Oils meet or exceed the requirements of the following rock drill OEMs: Ingersoll-Rand, Joy and Worthington. Applications include the lubrication of pneumatic equipment used for mining and tunnelling, jack-hammers, riveters, pavement breakers, tampers and other construction equipment.

Both ARDEE 32 and 100 have been used successfully in water injection plunger pumps. Their tackiness, robust corrosion inhibition and non-chlorinated, ashless additive system provides superior protection and minimizes environmental implications.

Petro-Canada Lubricants specialty fluids, lubricants and greases have an advantage in quality and performance. That's because our formulas are created and reviewed by an expert team of Research & Development specialists who ensure our finished products deliver to the specifications we demand and the performance standards our customers need.

GRADE SELECTION

ARDEE Oils come in five viscosity grades to satisfy ambient temperature requirements from -35°C/-31°F to +45°C/113°F.

- ARDEE 32 is designed for low temperature conditions and is a Manufacturers' Grade 10 oil. It is highly effective as an air-line oil for general industrial plant lubrication, as well.
- ARDEE 46 is specially formulated for all-season operation.
- ARDEE 68, 100 and 150 are used in underground mining operations and are classified as Manufacturers' Grade 20, 30 and 40 oils, respectively. ARDEE 150 is recommended for Secan drills and in mining operations trying to reduce oil consumption and misting.
- ARDEE 220 is a Manufacturers' Grade 50 and is normally used in the summer in large bore drills (greater than 10 cm/ 4 inch), operating in open pit mines.

TYPICAL PERFORMANCE DATA

Property	Test Method	ARDEE					
		32	46	68	100	150	220
Density @ 15°C, kg/L	D4052	0.8696	0.8634	0.8648	0.8714	0.8777	0.8772
Viscosity @ 40°C, cSt @ 100°C, cSt	D445	32.74	47.38	71.42	102.10	144.8	214.1
		6.450	7.829	10.21	12.65	15.61	20.17
Viscosity Index	D2270	154	134	127	115	111	109
Pourpoint, °C/°F	D5950	-48/-54	-45/-49	-45/-49	-33/-27	-30/-22	-27/-16
Flash point, COC, °C/°F	D92	200/392	206/403	227/440	241/466	253/487	283/541
Steam emulsion number, sec	D1935*	1200+	1200+	1200+	1200+	1200+	1200+
Foam, mL Sequence I Sequence II Sequence III	D892	25/0	0/0	15/0	0/0	0/0	0/0
		30/0	40/0	20/0	20/0	20/0	20/0
		15/0	10/0	0/0	0/0	0/0	0/0
Timken OK Load, lb/kg	D2782	30/14	30/14	30/14	30/14	30/14	30/14
Four-ball Wear, scar diam., mm	D4172	0.25	0.24	0.29	0.33	0.25	0.24
Four-ball Weld Load, kg/lb	D2783	200/441	200/441	200/441	200/441	200/441	200/441

The values quoted above are typical of normal production. They do not constitute a specification.

* Discontinued Test Method

Learn more about us: lubricants.petro-canada.com

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Committed to the disciplined operation of our business.



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