

PETRONAS ATO SERIES

High Performance Air Tool Oils

PETRONAS ATO Series are high performance air tool oils specially developed for a range of pneumatically operated rock drills in underground and surface mining.

Formulated with high quality selected mineral base oils enhanced with advanced anti-wear, anti-rust, anti-oxidant and anti-foam additives, PETRONAS ATO oils provide excellent anti-wear, metal wetting properties, adhesiveness, fog and emulsion control. The fog generation is kept at minimum and is non-toxic.

Applications

PETRONAS ATO Series are recommended for use in:

- pneumatically operated rock drills in underground and surface mining
- percussion and rotary air-operated tools

Features and Benefits

Features	Benefits
Prevents detonation and carbon deposits	Reduces sludge and deposit formation, improving valve operation
Excellent anti-wear protection	Protects equipment components from excessive wear and provides longer equipment life
Low temperature protection	Ensures proper protection of equipment components during cold starts and prevents tool downtime due to icing
Excellent fog control	Due to low fog generation thereby improving quality and safety working environment
High rust & corrosion protection	Inhibits the corrosion process that occurs in presence of water, improving equipment life
High multi metal compatibility	Compatible with most metal alloys ensuring trouble free performance of the system
High compatibility with most seal and elastomers	Compatible with most seals and elastomers, which prevents oil leaks and contamination due to seal erosion

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Typical Properties

Characteristic	Method	Specification	32	46	100	150	220
Specific Gravity @15°C	ASTM D 4052	(1)	0,871	0,875	0,885	0,895	0,901
Kinematic Viscosity at 40°C, cSt	ASTM D 445	(1)	32	46	100	150	220
Kinematic Viscosity at 100°C, cSt	ASTM D 445	(1)	5,4	6,9	11,8	14,7	18,5
Viscosity Index	ASTM D 2270	(1)	102	105	107	97	93
Flash Point, °C	ASTM D 92	(1)	220	220	240	240	250
Pour Point, °C	ASTM D 97	(1)	-33	-30	-27	-24	-24
4-Ball Wear Scar diameter, mm	ASTM D4172M	(1)	0,32	0,30	0,28	0,27	0,27
Timken, lbs	ASTM D2782	(1)	60	60	60	60	60
Copper Strip Corrosion	ASTM D 130	(1)	1b	1b	1b	1b	1b
Foam Sequence I, mL			0/0	0/0	0/0	0/0	0/0
Foam Sequence II, mL	ASTM D 892	(1)	0/0	0/0	0/0	0/0	0/0
Foam Sequence III, mL			0/0	0/0	0/0	0/0	0/0

All technical data is provided for reference only / (1): not required in specification / SS is available upon request including quality control limits

Performance Levels

- ISO 6743-11 Types PAC and PBC

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Health, Safety and Environment

This product is unlikely to present any significant health and safety hazards when used in the recommended application. Avoid contact with skin. Wash immediately with soap and water after skin contact. Do not discharge into drains, soil or water.

For further detail regarding storage, safe handling, and disposal of product, please refer to product SDS or contact us at: www.pli-petronas.com

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