



Molub-Alloy 1500

Gear oil

Description

Castrol Molub-Alloy™ 1500 gear oil is a severe duty, Extreme Pressure (EP) gear oil designed to meet the increasing lubrication needs and specifications of manufacturers of modern industrial and mining equipment such as walking draglines. To withstand the surging pressures and sudden reversal in speed and direction of hoist and drag gears and the great torque experienced in swing and propel gears, the ultimate in oil film forming and persistence is required.

Molub-Alloy 1500 gear oil is a blend of high quality, petroleum base stocks and additives designed for very heavy duty and severe service. Viscosity is in the ISO viscosity grade 1500.

High viscosity is achieved naturally by a blend of select petroleum base stocks and not by the addition of viscosity modifiers which could shear to a lower viscosity in service. High film strength is assured by temperature stability and by the tendency for Molub-Alloy lubricating solids in stable suspension to prevent high temperatures from occurring under extreme pressures during boundary (contact) lubrication.

Extreme Pressure (EP) characteristics are derived from chemical EP additives combined with a blend of Molub-Alloy lubricating solids in very stable suspension. Molub-Alloy 1500 is non-corrosive to all ferrous and non-ferrous metals. The lubricating solids are selected specifically for heavy duty gear service.

Rust and oxidation inhibiting characteristics are maximized for rust protection and long life of the oil. Foaming is controlled by the use of special components and inhibitors.

Application

Molub-Alloy 1500 is designed for service in enclosed gear systems in heavy duty industrial and mining equipment including walking draglines, shovels, and other large excavators. Gear types include helical, bevel, spiral bevel, and others subject to extreme pressures and severe shock loads.

Molub-Alloy 1500 has also found use in replacing grease in applications where the lubricant must dwell for extended periods in small lube lines and channels in high ambient temperatures. Such applications are found in tire curing presses, and near casting moulds, ovens, and autoclaves where the possibility of grease separating and "cooking" is high.

Molub-Alloy Gear Oil 1500 may be used in central oil or circulation systems or applied by automatic dispensing equipment.

Advantages

- Formation of a stable lubricant film on tooth flanks over a wide temperature range even at lower speed due to good viscosity/temperature characteristics.
- Boundary (contact) lubrication with Molub-Alloy lubricating solids occurs when the oil film is squeezed thin during extreme and shock loading, and at start-up or other conditions which exceed the capabilities of fluid film lubrication. Contact lubrication protects working surfaces against spalling, and minimizes wear caused by cold welding.
- Where lubricating solids protect gear surfaces from contact friction, they minimize the frictional heat which could reduce oil film strength by lowering its viscosity.
- Improved surfaces and reduced heat of friction may substantially increase the working life of both parts and lubrication oil.
- Overall savings are derived from the above and result from less labour and downtime, smoother, more efficient operation with longer parts life, and extended lubrication cycle

Typical Characteristics

Name	Method	Units	Molub-Alloy 1500
ISO Viscosity Grade	ASTM D2422		1500
AGMA Lubricant Number			Between 9EP and 10EP
Density @ 15°C	ISO 12185 / ASTM D4052	g/ml	0.94
Viscosity, Kinematic 40°C	ISO 3104 / ASTM D445	mm ² /s	1500
Viscosity, Kinematic 100°C	ISO 3104 / ASTM D445	mm ² /s	64
Viscosity Index	ISO 2909 / ASTM D2270		95
Flash Point, COC	ISO 2592 / ASTM D92	°C	227
Pour Point	ISO 3016 / ASTM D97	°C	-6
Rust Test Procedure A (24 hrs Distilled Water)	ISO 7210 / ASTM D665		Pass
Rust Test Procedure B (24 hrs Synthetic Sea Water)	ISO 7210 / ASTM D665		Pass
Copper Corrosion (3hrs @ 100°C)	ISO 2160 / ASTM D130		1b
FZG Test (A/8.3/90)	DIN 51354	FLS	>12
Timken Extreme Pressure Test, OK Load	ASTM D2782	kg/lbs	36/80
Four Ball Wear Test (40 kg, 75°C, 1800 rpm, 1 hr) Scar Diameter	ASTM D2266	mm	0.45
Four Ball Extreme Pressure Test, Load Wear Index	ASTM D2783	Kgf	65
Four Ball Extreme Pressure Test, Weld Load	ASTM D2783	Kgf	500
Four Ball Weld Load	DIN 51350-02	N	5500
Four Ball Wear Test Wear Scar Diameter	DIN 51350-B	mm	<0.040
Falex Wear Test	ASTM D2670	Wear Teeth	2
Falex Extreme Pressure Test, Load Passed	ASTM D3233B	lbs	2750

The above figures are typical of those obtained with normal production tolerance and do not constitute a specification.

Additional Information

Do not use with diatomaceous earth or any other adsorbent surface active filter media. Other types of filters require only recommended inspection and service.

Storage

All packages should be stored under cover. Where outside storage is unavoidable drums should be laid horizontally to avoid the possible ingress of water and the obliteration of drum markings. Products should not be stored above 60°C, exposed to hot sun or freezing conditions.

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