Product Data

Molub-Alloy™ GM Gear Oil Range

Gear oils

Description

Castrol Molub-Alloy GM™ Gear oils (Previously called Molub-Alloy™ Gear oils) were developed for the lubrication of enclosed gears. They are manufactured from the highest quality components that have been carefully selected for their compatibility with Molub-Alloy GM lubricating solids.

Load carrying capabilities are derived from Molub-Alloy GM's formulation and the proprietary blend of lubricating solids. The lubricating solids are treated to increase their natural affinity for metal surfaces. Also, they are completely dispersed to assure effectiveness over the life of the oil.

Rust and oxidation inhibiting characteristics are maximized to afford effective rust protection and long service life.

Application

Molub-Alloy GM gear oils are recommended for spur, helical, herringbone, and straight or spiral bevel gears. They are especially suited for heavy duty and shock loading where Extreme Pressure (EP) characteristics are required.
They should not be used where gear manufacturers specify the use of non-EP lubricants. For severe worm gear service where ‘compounded’ gear oils are recommended please refer to Molub-Alloy GM 170w / 680.
Molub-Alloy GM gear oil 300 S / 1000 is especially suited for service in enclosed gears for heavy-duty industry and mining machinery.

Advantages

- Reduced friction, most evident under boundary conditions, is directly attributed to the presence of specially compounded lubricating solids. This benefit is most pronounced where frequent start-up, slow speeds, and high and unexpected loads are encountered.
- The establishment of a protective layer of Molub-Alloy GM solids provides substantial increase in the working life of both parts and lubricant. This increases load bearing area which can reduce unit pressures operating temperatures, and wear.
- Realistic energy savings are possible through a reduction in peak power demand during cold start-up.
- Seal leakage is greatly reduced. Only compatible base oils that control rubber swelling tendencies are used. The Molub-Alloy GM solids lubricate and improve seal contact surfaces.
- 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 cycles

Typical Characteristics

Name	Method	Unit	GM 90/220	GM 690/ 320	GM 140/ 460	GM 300S/ 1000
ISO Viscosity Grade	ASTM D2422	-	220	690	140	1000
AGMA Lubricant Number	-	-	5EP	6EP	7EP	8A EP
Density @ 15°C / 59°F	ASTM D4052 / ISO 12185	kg/m³	890	900	900	920
Kinematic Viscosity @ 40°C / 104°F	ASTM D445 / ISO 3104	mm²/s	220	320	460	1000
Kinematic Viscosity @ 100°C / 212°F	ASTM D445 / ISO 3104	mm²/s	19	25	30	51
Viscosity Index	ASTM D2270 / ISO 2909	-	96	100	95	97
Flash Point - open cup method	ASTM D92 / ISO 2592	°C/°F	230/ 446	230/ 446	240/ 464	250/482
Pour Point	ASTM D97 / ISO 3016	°C/°F	-18/0	-15/5	-15/5	-9/16
Rust test - synthetic seawater (24 hrs)	ASTM D665B / ISO 7120	Rating	Pass	Pass	Pass	Pass
FZG Gear Scuffing test - A/8.3/90	ISO 14635-1	Failure Load Stage	>12	>12	>12	>12
Four Ball Wear test - Wear Scar Diameter (40 kgf / 75°C / 1800 rpm / 1 hr)	ASTM D2266	mm	0.4	0.4	0.4	0.4
Four Ball Weld Load test - Load Wear Index	ASTM D2783	kgf	60	60	62	62
Four Ball Weld Load test - Weld Point	ASTM D2783	kgf	400	400	400	400
Four Ball Wear test - Weld Load	DIN 51350-2	N	4400	4600	4600	6500
Four Ball Wear Test - Scar Diameter	DIN 51350-3B	mm	<0.40	<0.30	<0.35	<0.40

Subject to usual manufacturing tolerances.

Additional Information

Molub-Alloy GM gear oils cannot be used with diatomaceous earth or any other adsorbent, surface active filter medial.

This product was previously called Molub-Alloy Gear Oils. The name was changed in 2015.

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