

Castrol Molub-Alloy gear oils

Gear oils

Description

Castrol 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 lubricating solids.

Load carrying capabilities are derived from Molub-Alloy's formulation and the proprietary blend of lubricating solids. These metallic 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 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 use Molub-Alloy 170 W / 680.

Molub-Alloy 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 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 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

Test	Method	Units	814/150	90/220	690/320	140/460	300S/1000	
ISO Viscosity Grade	ASTM D 2422	-	150	220	320	460	1000	
AGMA Lubricant Number	-	-	4EP	5EP	6EP	7EP	8A EP	
Density @ 15°C / 60°F	ISO 12185 / ASTM D4052	g/ml	0.89	0.89	0.9	0.9	0.92	
Kin.viscosity, @ 40°C / 104°F	ISO 3104 / ASTM D445	mm ² /s	150	220	320	460	1000	
Kin.viscosity, @ 100°C / 212°F	ISO 3104 / ASTM D445	mm ² /s	14.7	18.7	25	30.3	51.2	
Viscosity index	ISO 2909 / ASTM 2270	-	97	96	100	95	97	
Flash Point, COC	ISO 2592 / ASTM D92	°C / °F	230/446	230/446	230/446	240/464	250/482	
Pour Point	ISO 3016 / ASTM D97	°C / °F	-23/-10	-18/0	-15/+5	-15/+5	-9/+16	
Rust Test Procedure A (24 hrs Distilled Water)	ISO 7210 / ASTM D665	-	Pass	Pass	Pass	Pass	Pass	
Procedure B (24 hrs Synthetic Sea Water)		-	Pass	Pass	Pass	Pass	Pass	
FZG Test, (A/8.3/90)	DIN 51354		>12					
Four Ball Wear Test (40 kg, 75°C/167°F, 1800 rpm, 1 hr) Scar Diameter	ASTM D2266	mm	0.4	0.4	0.4	0.4	0.4	
Four Ball Extreme Pressure Test Load Wear Index	ASTM D 2783	kgf	60	60	60	62	62	
Weld Load		kgf	400	400	400	400	400	
Four ball weld load	DIN 51350-02	N	3800	4400	4600	4600	6500	
Four ball wear test Wear scar diameter	DIN 51350-03-B	mm	<0.40	<0.40	<0.30	<0.35	<0.4	

Subject to usual manufacturing tolerances.

Additional Information

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

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Castrol Limited, Pipers Way, Swindon, Wiltshire SN3 1RE, UK
www.castrol.com/industrial