Product Data

Castrol Molub-Alloy® Gear Oils

They contain a proprietary blend of lubricating solids and come in eight ISO and AGMA viscosity grades. They exceed USS Extreme Pressure Oil and Extra Duty Gear Oil performance requirements (Tests 220 & 222).

Castrol Molub-Alloy Gear Oils are part of Castrol Performance Lubricants' Eco-Solutions™ product offering. Formulated to address environmental concerns, they are free of lead, chlorinated solvents, and barium. They contain less than 2 ppm of phenol.

Description

Castrol Molub-Alloy Gear Oils are manufactured from the highest quality components that have been carefully selected for their compatibility with Castrol Molub-Alloy lubricating solids and their recommended applications.

Load carrying capabilities are derived from Castrol 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.

High VI (Viscosity Index) enables these lubricants to accommodate wide temperature fluctuation.

Unique compounding techniques and inhibitors prevent foaming.

Applications

Castrol Molub-Alloy Gear Oils are recommended for spur, helical, herringbone, and straight or spiral bevel gears. They are especially used for heavy duty and shock loading where extreme pressure (EP) characteristics are needed. They **should not** be used where gear manufacturers specify the use of non-EP lubricants.

Castrol Molub-Alloy Gear Oils are used in enclosed worm gear drives, including moderately severe service. However, in very severe service, manufacturers may recommend the use of "compounded" gear oils as defined in the AGMA

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Standard for Lubrication of enclosed gears (AGMA 250.03). Castrol Molub-Alloy Cylinder Oils and 170W are "compounded" for severe worm gear service.

Range of Castrol Molub-Alloy Gear Oil Viscosities
ISO VG 68-1000
AGMA 2 EP to 8A EP
SAE 80W to 250

Apply **Castrol Molub-Alloy Gear Oils** by oil can, oil cup reservoir, splash, spray mist, or by automatic dispensing equipment and central oiling or circulation systems.

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 Castrol 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 Castrol Molub-Alloy solids lubricate and improve seal contact surfaces.

Overall savings are derived from the above and result from less labor and downtime, smoother, more efficient operation with longer parts life, and extended lubrication cycles.

Notes

Castrol Molub-Alloy Gear Oils cannot be used with diatomaceous earth or any other adsorbent, surface active filter medial.

For specific terms, conditions, warranty, and availability, refer to Castrol Performance Lubricants' Price List in effect at time of purchase.

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Typical Characteristics

	804	80	814	90	690	140	190	300S
ISO Viscosity Grade, ASTM D 2422	68	100	150	220	320	460	680	1000
AGMA Lubricant Number	2EP	3EP	4EP	5EP	6EP	7EP	8EP	8A EP
SAE Viscosity Classification	80W	80W	85W	90	90	140	140	250
API Service Classification	GL-4	GL-4	GL-4	GL-4	GL-4	GL-4	GL-4	GL-4
Requirements Tests 220 & 222	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Specific Gravity, ASTM D 1298,								
@ 15.6°C/60°F	0.887	0.882	0.889	0.894	0.911	0.900	0.956	0.905
API Gravity, ASTM D 1298 @ 15.6°C/60°F	28.1	29.0	27.7	26.7	24.9	23.9	23.4	22.7
Viscosity, ASTM D 445, D 2161:								
0	68	100	150	220	320	460	680	1000
@ 100°C, cSt	9.0	11.6	15.3	19.7	25.0	30.6	38.3	52.5
@ 100°F, cSt/SUS	76/352	112/519	170/778	250/1158	367/1700	532/2464	794/3677	1170/5420
@ 210°F, cSt/SUS	9.2/56	11.9/66	15.8/81	20.3/100	25.8/124	31.7/150	39.7/187	54.5/254
Viscosity Index, ASTM D 2270	106	104	103	102	102	102	93	100
Flash Point, ASTM D 92, COC, °C/°F	199/390	232/450	221/430	221/430	221/430	243/469	230/446	249/480
Fire Point, ASTM D 92, COC, °C/°F	218/425	260/500	263/505	263/505	266/510	266/510	266/510	266/510
Pour Point, ASTM D 97, °C/°F	-29/-20	-26/-15	-23/-10	-23/-10	-15/+5	-15/+5	-15/+15	-9/+15
Rust Test, ASTM D 665								
Procedure A (Distilled Water)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Procedure B (Synthetic Sea Water)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
FZG Test, (A/8.3/90, A/16.6/90)								
Load Stages Passed*	12+	12+	12+	12+	12+	12+	12+	12+
Timken Extreme Pressure Test, ASTM D 2782,								
OK Value, kg/lbs	32/70	32/70	32/70	32/70	32/70	32/70	32/70	32/70

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Typical Characteristics *(continued)*

Four Ball Wear Test (40 kg, 75°C/167°F, 1800 rpm, 1 hr)								
Scar Diameter, mm	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Four Ball Extreme Pressure Test, ASTM D 2783								
Load Wear Index, kg	52	60	60	60	60	62	62	62
Weld Load, kg	315	400	400	400	400	400	400	400
Falex Wear Test, ASTM D 2670, wear teeth	5	5	5	5	5	5	5	5
Castrol Molub-Alloy Solids, Grade Classification	Fluid Lub.	Fluid Lub.	Fluid Lub.	Fluid Lub.	Fluid Lub.	Fluid Lub.	Fluid Lub.	Fluid Lub.

Subject to usual manufacturing tolerances.

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