

Product Data Sheet

Mobilgear SHC 3200 & 6800 Very High Viscosity Synthetic Gear Oils

Product Description

The Mobilgear SHC Series lubricants are supreme performance heavy-duty gear oils primarily designed for all kinds of enclosed gearing as well as plain and rolling element bearings. They are formulated from wax-free polyalphaolefin (PAO) synthetic base stocks that have exceptional oxidation and thermal properties and excellent low temperature fluidity. The combination of a naturally high viscosity index and a unique additive system enables these products to provide outstanding performance under severe high and low temperature operating conditions. The wax-free nature of the PAO base oils also contributes to the products' excellent low temperature performance. They have outstanding EP properties and resistance to shock loading. The base stocks have inherently low traction properties that result in low fluid friction in the load zone of non-conforming surfaces such as gears and rolling element bearings. Reduced fluid friction produces lower operating temperatures and improved gear efficiency.

Because of the very high viscosities available, this family can meet the lubrication needs of very slow speed and high load/high temperature gears and bearings; they are ideal for situations in which conventional products operate in the boundary regime. They may be substituted for all-loss lubricants in certain open gear applications, but cost of equipment modifications needs to be balanced against the benefits of recirculating the lubricant.

Mobilgear SHC Series lubricants are the products of choice for many OEMs and customers world-wide based on their wide application range and superb performance in tough situations.

Features & Benefits

The Mobilgear SHC family of lubricants is a leading member of the SHC brand of products that are world-renowned for their innovation and performance. These products are based on synthesised PAO base oils pioneered by our scientists and which are now the leading non-mineral base oil used in finished lubricants. These molecular design base stocks provide many benefits not possible with mineral stocks, and they result in final products with unique performance features and customer benefits.

Our formulation scientists have used a proprietary additive combination that fortifies the PAO base oils to provide excellent EP and anti-wear performance, even in shock load situations. The resulting finished products have shown exceptional performance in OEM evaluations, customer field tests and commercial use. The higher viscosity grades are particularly effective in low-speed, high load, high temperature situations and provide excellent gear & bearing protection, longer oil life and excellent all-round service compared with conventional products.

Specific features and potential benefits for the Mobilgear SHC Series of lubricants include:

Features	Advantages and Potential Benefits
Outstanding load-carrying and anti-wear properties	Extended gear life and reduced maintenance costs
Very high viscosity grades available, without reduction of properties or performance capability	Provides excellent EHL film protection of gears and bearings even at slow speeds, high loads and high temperatures Can be used to convert all-loss systems to circulation
	Can replace grease in some applications resulting in plant product consolidation
High viscosity index and wax-free base oils	Trouble-free operation over a wide temperature range particularly at extremely low temperatures.
Low traction properties	Improved gear efficiency and lower operating temperatures lead to lower operating costs
Outstanding thermal/oxidation resistance and long product life	Reduced lubricant consumption, reduced product and change-out costs
Light colour	Minimises need for gear cleaning prior to inspections, reducing maintenance costs

Applications

Application Considerations: While the Mobilgear SHC Series are compatible with mineral oil based products, admixture may detract from their performance. Consequently it is recommended that before changing a system to one of the Mobilgear SHC Series, it should be thoroughly cleaned out and flushed to achieve the maximum performance benefits.

Mobilgear SHC Series oils are recommended for all types of enclosed steel-on-steel gear drives. They are suitable for both circulation and splash lubrication systems. They are particularly recommended for gear sets operating under heavy or shock loads and low speeds where boundary lubrication may prevail. For clarity, applications for this product family are described as follows:

- Industrial enclosed spur, helical and bevel gears, especially slow speed, and/or high load units
- Plain and rolling element bearings, especially in slow speed, and/or high load applications
- Railroad DC Traction Motor drives
- Certain open gear applications such as oiling pinions or specially designed circulation systems

Typical Properties

	Test Method	Mobilgear SHC 3200	Mobilgear SHC 6800
ISO VG	-	3200	
Viscosity, cSt at 40°C	ASTM D 445	3025	8100
Viscosity, cSt at 100°C	ASTM D 445	171	350
Viscosity Index	ASTM D 2270	160	170
Density at 15.6°C, KG/L	ASTM D 4052	0.888	0.897
Flash Point, °C	ASTM D 92	220	220
Pour Point, °C	ASTM D 97	-9	-6
Timken OK Load, lb		60	60
4-Ball EP Test	ASTM D 2783		
Weld Load, kg		250	250
Load Wear Index, kgf		48	48
FZG test, Failure stage	DIN 51354	13+	13+
Copper Corrosion, 3 hrs at 100°C	ASTM D 130	1B	1B
Demulsibility, EP oils, Free water, ml	ASTM D 2711-2	85	85
Foaming Characteristics, Sequence I, II, III, Tendency/Stability, ml/ml	ASTM D 892	0/0, 0/0, 0/0	0/0, 0/0, 0/0
Rust Protection, Sea water	ASTM D 665	Pass	Pass

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Due to continual product research and development, the information contained herein is subject to change without notification. Typical Properties may vary slightly. All products may not be available locally.

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Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. MSDS's are available upon request through Esso Petroleum Company, Ltd., by telephoning 01372 222000. This product should not be used for purposes other than its intended use. If disposing of used product, take care to protect the environment.

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