MOBIL SHC GEAR 320 WT

Mobil Industrial, United Kingdom

Advanced Wind Turbine Gear Lubricant

Product Description

MOBIL SHC GEAR 320 WT advanced wind turbine gear lubricant is a fully synthetic industrial gear lubricant designed to provide optimum equipment protection of wind turbine gear boxes and lubricant life even under extreme conditions. ExxonMobil's next generation polyalphaolefin (PAO) technology has been selected for its exceptional oxidation resistance and thermal properties. This exclusive synthetic base fluid is the foundation for a novel, balanced gear oil formulation, which delivers benefits in micropitting, viscosity index, air release, and low temperature flow characteristics versus other synthetic gear oils. MOBIL SHC GEAR 320 WT advanced wind turbine gear lubricant contains advanced, scientifically engineered and balanced proprietary additive technology designed to provide excellent protection against conventional wear modes such as scuffing but also provides a high level of resistance against micropitting fatigue. In addition, compared to conventional gear oil chemistries, it offers the potential for improved lubrication of gearbox rolling element bearings. MOBIL SHC GEAR 320 WT advanced wind turbine gear lubricant offers outstanding rust and corrosion protection versus conventional gear oils. MOBIL SHC GEAR 320 WT shows no tendency to plug fine filters even when wet and has excellent compatibility with ferrous and non-ferrous metals, even at elevated temperatures.
MOBIL SHC GEAR 320 WT advanced wind turbine gear lubricant is recommended for lubrication of the main gear box in wind turbine power generation systems. It is especially recommended for applications that may be subject to micropitting: especially heavily loaded gearboxes with surface-hardened tooth metallurgies, which are typically used in wind turbines. It may also be used in gear applications where extreme low and/or high temperatures are encountered and applications where corrosion may be severe.

Features and Benefits

Mobil SHC synthetic lubricants are recognized and appreciated around the world for innovation and outstanding performance. These molecular design PAO synthetic products, pioneered by our research scientists, symbolize the continuing commitment to using advanced technology to provide outstanding products. A key factor in the development of MOBIL SHC GEAR 320 WT advanced wind turbine gear lubricant was the frequent exchange of information between our scientists and application specialists with key wind turbine, gearbox, and bearing Original Equipment Manufacturers (OEMs) to ensure that this next-generation product offering will provide exceptional performance with the rapidly evolving gearbox designs for wind turbines.

Our field demonstration work with equipment builders will help to confirm the results from our own laboratory tests showing the exceptional performance of the MOBIL SHC GEAR 320 WT advanced wind turbine gear lubricant. This cooperative work will demonstrate the all-round balanced performance benefits for the next-generation MOBIL SHC GEAR 320 WT advanced wind turbine gear lubricant, including a wide temperature range of application.

To address the issue of micropitting gear wear, our product formulation scientists designed a proprietary combination of additives which would resist traditional gear wear mechanisms as well as protecting against micropitting. Our formulators chose exclusive, next-generation PAO synthetic base oils and utilized a novel blending approach to deliver benefits in micropitting, viscosity index, air release, and low temperature flow characteristics, as well as the balance of the performance features. MOBIL SHC GEAR 320 WT advanced wind turbine gear lubricant offers the following benefits:

Features	Advantages and Potential Benefits
Superb protection from micropitting fatigue wear as well as high resistance to traditional scuffing wear	Helps extend gear and bearing life in enclosed gear drives operating under extreme conditions of load, speed and temperature
	Helps reduce unplanned downtime; less maintenance - especially critical for difficult to access gearboxes.
Excellent resistance to degradation at high temperatures	Extended oil life and drain intervals help reduce oil consumption and manpower costs
Low traction PAO base stocks for improved gear efficiency	Helps reduce energy consumption and lower operating temperatures
High viscosity index equating to reduced viscosity change with temperature	Ability to operate at both high and low temperatures: especially critical in remote applications with no oil cooling or heating

Features	Advantages and Potential Benefits
Excellent resistance to rust and corrosion and very good demulsibility	Smooth, trouble-free operation at high temperatures or in applications subject to water contamination
	Excellent compatibility with soft metals
No filter plugging, even in presence of water	Less filter changes and reduced maintenance costs
Excellent compatibility with common gearbox materials of construction and with mineral-based gear oils	Easy changeover from mineral products

Applications

Application Considerations: While Mobil SHC Gear 320 WT is compatible with mineral oil-based products, admixture may detract from their performance. Consequently it is recommended that before changing a system to Mobil SHC Gear 320 WT, it should be thoroughly cleaned out and flushed to achieve the maximum performance benefits.

MOBIL SHC GEAR 320 WT advanced wind turbine gear lubricant is designed to provide optimum equipment protection and oil life even under extreme conditions. It is especially formulated to resist micropitting of modern, case hardened gearing and can operate in both high and low temperature environments. Typical applications include:

- Wind turbines, especially highly loaded and shock loaded units, remotely located units and extreme temperature environments
- Auxiliary gearboxes in wind turbines, such as gearmotors for pitch and yaw drives

Specifications and Approvals

Mobil SHC Gear WT meets or exceeds the requirements of:	
AGMA 9005-E02 (at appropriate viscosity grade)	X
DIN 51517 Part 3 (CLP)	X
ISO 12925-1 Type CKD	X

Typical Properties

Mobil SHC Gear Series	320
ISO Viscosity Grade	320
Viscosity, ASTM D 445	
cSt @ 40° C	320
cSt @ 100° C	42.1
Viscosity Index, ASTM D 2270	187
Pour Point, °C, ASTM D 97	-45
Flash Point, °C, ASTM D 92	256
Specific Gravity @15.6° C kg/l, ASTM D 4052	0.854
FZG Micropitting, FVA Proc No. 54	
Fail Stage	>10
GFT-Class	High
FZG Scuffing, DIN 51534 (mod) A/8.3/90, Fail Stage	14+

Mobil SHC Gear Series	320
Rust protection, ASTM D665, Sea Water	Pass
Water Separability, ASTM D 1401,Time to 40/37/3 at 82° C, minutes	15
Foaming Characteristics, ASTM D 892,Seq. II, Tendency/Stability, ml/ml	0/0

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 your sales contract office, or via the Internet. 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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Typical Properties are typical of those obtained with normal production tolerance and do not constitute a specification. Variations that do not affect product performance are to be expected during normal manufacture and at different blending locations. The information contained herein is subject to change without notice. All products may not be available locally. For more information, contact your local ExxonMobil contact or visit www.exxonmobil.com
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