Mobil SHC™ Gear 320 WindPower

Mobil Industrial , Denmark

Synthetic Wind Turbine Gear Oil

Product Description

Mobil SHC Gear 320 WindPower advanced high performance wind turbine gear oil is a synthetic industrial gear lubricant designed to provide optimum equipment protection for wind turbine gearboxes and help maximize lubricant life for smooth wind turbine operations.

Mobil SHC Gear 320 WindPower contains ExxonMobil's metallocene polyalphaolefin (mPAO) synthetic base oil and proprietary additive technology designed to provide balanced performance, in particular, outstanding wear protection provided by increased lubrication film thickness leading to higher load carrying capacity that helps prevent surface fatigue failures.

Additionally, in support of industry focus on White Etching Cracks (WEC) plaguing some wind turbine operations, Mobil SHC Gear 320 WindPower continues our tradition of wind turbine gear oils that are certified to not contribute to oil related effects of White Etching Cracks (WEC) by the world leading certification body DNV .

Furthermore, in combination with Mobil Xtra™ EP WT used as an additive top treat solution enabling Mobil SHC Gear 320 WindPower to retain its performance throughout its lifetime, Mobil SHC Gear 320 WindPower can help protect equipment and maintain excellent performance for the lifetime of the gearbox, helping provide smooth operations in virtually all operating conditions, and help reduce downtime and maintenance costs*. As a result and thanks to a thorough accelerated oil ageing testing program, Mobil SHC Gear 320 WindPower has demonstrated fill-for-life capability and ultimately its suitability of use throughout wind turbine gearbox lifetime of 25 years was certified by DNV.

Mobil SHC Gear 320 WindPower was designed, developed and produced adhering to APQP4Wind standards and best practices to enhance efficiency of wind turbine operators worldwide.

Features and Benefits

Features	Advantages and Potential Benefits
Formulated with high quality synthetic base oils and advanced sustainable antioxidant system to help maximize the life of the gear oil to last the lifetime of the gearbox.	When used in combination with Mobil Xtra™ EP WT, enables suitability of use throughout the wind turbine gearbox lifetime thus helping optimize wind turbine uptime and reduce maintenance costs and potential safety incidents.
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.
Does not contribute to oil related effects of White Etching Cracks (WEC)	Helps reduce unplanned downtime and maintenance from premature bearing failure and gearbox replacement.
Outstanding foam protection, even after fine filtration	Helps reduce risk of spillage and environmental impact. Reduces turbine trips due to false oil level alarms.

Features	Advantages and Potential Benefits
Low sulfur formulation for enhanced compatibility with yellow metals and soft coatings.	Addresses the unique challenges of journal bearings material compatibility.
Outstanding cleanliness level, -/14/11 (ISO 4407)	Helps provide smooth operations in all commercial operating conditions Helps reduce additional on-site filtration and associated costs

* Maintenance costs may vary and are based on application-specific operating conditions. Not a guarantee of financial performance.

** Tested via FVA 54/I-IV (C/8.3/60) and (C/8.3/90).

Applications

Mobil SHC Gear 320 WindPower advanced wind turbine gear lubricant is primarily recommended for lubrication of the main gearbox in wind turbines. It is also recommended for applications 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.

Typical applications include:

• Wind turbine main gearboxes

• Auxiliary gearboxes in wind turbines, such as gear motors for pitch and yaw drives

Application consideration: while Mobil SHC Gear 320 WindPower is compatible with most widely used wind turbine gear oil products, it is recommended that systems are thoroughly cleaned out and flushed before switching to Mobil SHC Gear 320 WindPower to achieve the maximum performance benefits.

Specifications and Approvals

This product meets or exceeds the requirements of:
IEC 61400-4 :2012(E)
ISO L-CKD (ISO 12925-1:2024)
ISO L-CKSMP (ISO 12925-1:2024)
ISO L-CTPR (ISO 12925-1:2024)
AGMA 9005-F16 AS
DIN 51517-3:2018-09
Non-toxicity to aquatic organisms according to the GESAMP hazard evaluation procedure

Properties and Specifications

Property	
Grade	ISO VG 320
Density @ 15.6 C, g/ml, ASTM D4052	0.847

Property	
Flash Point, Cleveland Open Cup, °C, ASTM D92	262
Foam, Sequence II, Stability, ml, ASTM D892	0
Foam, Sequence II, Tendency, ml, ASTM D892	0
Rust Characteristics, Procedure B, ASTM D665	Pass
Pour Point, °C, ASTM D5950	-45
Viscosity Index, ASTM D2270	185
Kinematic Viscosity @ 40 C, mm2/s, ASTM D445	345
Emulsion, Time to 37 mL Water, 82 C, min, ASTM D1401	20
ISO 4406 Cleanliness, class, ISO 4407	-/14/11
FZG Micropitting, Fail Stage, Rating, FVA 54	>10
FZG Micropitting, GFT-Class, Rating, FVA 54	High
FZG Scuffing, A/8.3/90, Fail Stage, Rating, DIN 51354	14+
Kinematic Viscosity @ 100 C, mm2/s, ASTM D445	44.1

Health and safety

Health and Safety recommendations for this product can be found on the Material Safety Data Sheet (MSDS) @ http://www.msds.exxonmobil.com/psims/psims.aspx

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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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