

# Mobilgear 600 XP Series

Gear Oil

## Product Description

The Mobilgear 600 XP Series are extra high performance gear oils having outstanding extreme pressure characteristics and load-carrying properties, intended for use in all types of enclosed gear drives with circulation or splash lubrication systems. Mobilgear 600 XP Series is designed to stay ahead of the changing needs of gearbox technology. Gearbox technology design trends are towards smaller units with similar power throughput. This increase in power density places increased demands on gear oils. Mobilgear 600 XP Series oils are formulated to meet the stress by providing extra protection for gears, bearings and seals.

Mobilgear 600 XP Series is formulated to protect gear teeth from wear at its earliest stages. Microscopic wear, called micropitting, can lead to significant gear tooth damage. Mobilgear 600 XP Series exceeds the industry requirement for bearing wear protection. In fact, Mobilgear 600 XP Series provides up to 15 times the wear protection as measured by the industry standard FAG FE08 test. Mobilgear 600 XP Series formulation is able to provide maximum wear and corrosion protection while maintaining compatibility with common gearbox seal materials. Mobilgear 600 XP helps to maintain gearbox seal integrity thereby preventing oil leaks and keeping contamination out. By protecting the gears, bearings and seals, Mobilgear 600 XP can improve equipment reliability and increase productivity.

Mobilgear 600 XP Series oils are recommended for industrial spur, helical and bevel enclosed gears with circulation or splash lubrication, operating at bulk oil temperatures up to 100°C. They are particularly suitable for gear sets working under heavy or shock loads. Mobilgear 600 XP oils also find broad application in marine gearing applications. Non-gear applications include highly loaded and slow speed plain and rolling contact bearings.

## Features and Benefits

Mobilgear 600 XP Series products are a leading member of the Mobil brand of industrial lubricants that enjoy a reputation for innovation and high performance capability. These mineral-based products are designed to provide high quality industrial gear oils, meeting the latest industry standards and with high versatility to lubricate a broad range of industrial and marine equipment.

Mobilgear 600 XP Series products offer the following features and potential benefits:

Due to continual product research and development, the information contained herein is subject to changes without notification. Additional important health and safety information on this product can be found in the Material Safety Data Sheet, which is available online at [www.imperialoil.ca/mobil](http://www.imperialoil.ca/mobil) or by contacting Lubricants and Petroleum Specialities, Technical Services, Technical Help Desk: 1-800-268-3183

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Oct-01



Features	Advantages and Potential Benefits
Enhanced gear wear protection from micropitting	Less gear and bearing wear resulting in less unexpected downtime
Reduced debris denting from generated wear particles	Up to 22% improvement in bearing life reducing bearing replacement costs and improving productivity
Improved bearing wear protection	Improved bearing life resulting in higher productivity
Outstanding compatibility with a range of seal materials	Reduced leakage, oil consumption and contamination ingress helping to reduce maintenance, extend gearbox reliability and higher productivity
Excellent resistance to oil oxidation and thermal degradation	Helps extend lubricant life with lower lubricant and lubrication costs and reduced scheduled downtime.
Excellent resistance to oil oxidation and thermal degradation	Cleaner systems and reduced maintenance because of minimal sludge and deposit formation
Wide range of applications	Fewer grades of lubricant required because of wide range of application, leading to lower purchase and storage costs and less danger of using wrong lubricant
Optimised resistance to rust and corrosion of steel and corrosion of copper and soft metal alloys	Excellent protection of machine parts, with reduced maintenance and repair costs
Resistance to foaming and emulsion formation	Effective lubrication and problem free operation in the presence of water contamination or in equipment prone to oil foaming

## Applications

Mobilgear 600 XP lubricants are used in a wide range of industrial and marine applications, especially spur, helical, bevel and worm gearing. Specific applications include:

- Industrial gearing for conveyers, agitators, dryers, extruders, fans, mixers, presses, pulpers, pumps (including oil well pumps), screens, extruders and other heavy duty applications
- Marine gearing including main propulsion, centrifuges, deck machinery such as winches, windlasses, cranes, turning gears, pumps, elevators and rudder carriers
- Non-gear applications include shaft couplings, screws and heavily loaded plain and rolling contact bearings operating at slow speeds.

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## Specifications and Approvals

Mobilgear 600 XP Series meets or exceeds the following industry specifications:	Mobilgear 600 XP 68	Mobilgear 600 XP 100	Mobilgear 600 XP 150	Mobilgear 600 XP 220	Mobilgear 600 XP 320
Flender BA Table 7300 A		Approved	Approved	Approved	Approved
AGMA 9005-E02	2 EP	3 EP	4 EP	5 EP	6 EP
DIN 51517	CLP 68	CLP 100	CLP 150	CLP 220	CLP 320
ISO 12925-1 Type	CKD 68	CKD 100	CKD 150	CKD 220	CKD 320
Textron Power Transmission Grade	E2	E3	E4	E5	E6

## Typical Properties

Physical characteristics listed in the table are typical and may vary slightly.

Mobilgear 600 XP	68	100	150	220	320
ISO Viscosity Grade	68	100	150	220	320
Viscosity, ASTM D 445					
mm <sup>2</sup> /s @ 40 °C	68	100	150	220	320
mm <sup>2</sup> /s @ 100 °C	8.8	11.2	14.7	19.0	24.1
Viscosity Index, ASTM D2270	101	97	97	97	97
Pour Point, °C, ASTM D97	-27	-24	-24	-24	-24
Flash Point, °C, ASTM D92	230	230	230	240	240
Density @ 15.6 °C, ASTM D4052, kg/l	0.88	0.88	0.89	0.89	0.90
FZG Micropitting, FVA 54, Fail Stage / Rating		10 / High	10 / High	10 / High	10 / High
FE8 Wear Test, DIN 51519-3. Roller Wear, mg	11	2	2	2	2
Timken OK Load, ASTM D 2782, lb	65	65	65	65	65
4-Ball EP test, ASTM D2783, Weld Load, kg					
Load Wear Index, kgf	200	200	200	250	250
	47	47	47	48	48

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FZG Scuffing, DIN 51534, Fail Stage					
A/8.3/90	12+	12+	12+	12+	12+
A/16.6/90		12+	12+	12+	12+
FZG Scuffing, DIN 51534, Fail Stage					
A/8.3/90	12+	12+	12+	12+	12+
A/16.6/90		12+	12+	12+	12+
Rust protection, ASTM D665, Sea Water	Pass	Pass	Pass	Pass	Pass
Copper Strip Corrosion, ASTM D130, 3 hrs @ 100 °C	1B	1B	1B	1B	1B
Demulsibility, ASTM D1401, Time to 3ml emulsion, minutes @ 82°C	30	30	30	30	30
Foam Test, ASTM D892, Tendency/Stability, ml/ml					
Sequence 1	0/0	0/0	0/0	0/0	0/0
Sequence 2	30/0	30/0	30/0	30/0	30/0

## Precautions

The Mobilgear 600 XP Series oils are manufactured from high quality petroleum base stocks, carefully blended with selected additives. As with all petroleum products, good personal hygiene and careful handling should always be practiced. Avoid prolonged contact to skin, splashing into the eyes, ingestion or vapour inhalation. Please refer to our Imperial Oil Material Safety Data Sheet for further information.

Note: This product is not controlled under Canadian WHMIS legislation.

2006

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