



## 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 FE 8 test. Mobilgear 600 XP Series' balanced 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. They may also be used in 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:

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.
High resistance to sludge and deposit formation	Cleaner systems and reduced maintenance
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

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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.
- Mobilgear 600 XP 100, 150, 220, 320, 460, and 680 are approved by Siemens AG for use in Flender gearboxes

## Specifications and Approvals

Mobilgear 600 XP meets or exceeds the requirements of:	Mobilgear 600 XP 68	Mobilgear 600 XP 100	Mobilgear 600 XP 150	Mobilgear 600 XP 220	Mobilgear 600 XP 320	Mobilgear 600 XP 460	Mobilgear 600 XP 680
AGMA 9005-E02	2 EP	3 EP	4 EP	5 EP	6 EP	7 EP	-
DIN 51517-3: 2009-06	X	X	X	X	X	X	X
ISO 12925-1 Typ	CKD 68	CKD 100	CKD 150	CKD 220	CKD 320	CKC 460	CKC 680

Mobilgear 600 XP has the following builder approvals:	Mobilgear 600 XP 68	Mobilgear 600 XP 100	Mobilgear 600 XP 150	Mobilgear 600 XP 220	Mobilgear 600 XP 320	Mobilgear 600 XP 460	Mobilgear 600 XP 680
SIEMENS AG Flender gear units, T 7300, Table A-a, Flender Code No.		A17	A16	A15	A14	A13	A12
SIEMENS AG Flender gear units, T 7300, Table E-am, Flender Code No.			E76				
Mueller Weingarten DT 55 005		CLP 100	CLP 150	CLP 220	CLP 320	CLP 460	

## Typical Properties

Mobilgear 600 XP	68	100	150	220	320	460	680
ISO Viscosity Grade	68	100	150	220	320	460	680
Viscosity, ASTM D 445							
mm <sup>2</sup> /s @ 40°C	68	100	150	220	320	460	680
mm <sup>2</sup> /s @ 100°C	8.8	11.2	14.7	19.0	24.1	30.6	39.2
Viscosity Index, ASTM D 2270	101	97	97	97	97	96	90
Pour Point, °C, ASTM D 97	-27	-24	-24	-24	-24	-15	-9
Flash Point, °C, ASTM D 92	230	230	230	240	240	240	285
Density @15.6 °C, ASTM D 4052, kg/l	0.88	0.88	0.89	0.89	0.90	0.90	0.91
FZG Micropitting, FVA 54, Fail Stage / Rating		10 / High	10 / High	10 / High	10 / High	10 / High	10 / High

Property	Mobilgear 600 XP Series						
	100	150	220	320	460	680	1000
FE 8 wear test, DIN 51819-3, D7,5/80-80. Roller wear, mg	2	2	2	2	2	2	2
Timken OK Load, ASTM D 2782, lb	65	65	65	65	65	65	65
4-Ball EP test, ASTM D 2783, Weld Load, kg	200	200	250	250	250	250	250
Load Wear Index, kgf	47	47	47	48	48	48	48
FZG Scuffing, Fail Stage							
A/8.3/90	12+	12+	12+	12+	12+	12+	12+
A/16.6/90		12+	12+	12+	12+	12+	12+
Rust protection, ASTM D 665, Sea Water	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Copper Strip Corrosion, ASTM D 130, 3 hrs @ 100°C	1B	1B	1B	1B	1B	1B	1B
Demulsibility, ASTM D 1401, Time to 3ml emulsion, minutes @ 82°C	30	30	30	30	30	30	30
Foam Test, ASTM D 892, Tendency/Stability, ml/ml Sequence 1	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Sequence 2	30/0	30/0	30/0	30/0	30/0	30/0	30/0

## Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application, following the recommendations provided in the Material Safety Data Sheet (MSDS). MSDSs are available upon request through your sales contract office, or via the Internet on <http://www.exxonmobil.com>. 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](http://www.exxonmobil.com). ExxonMobil is comprised of numerous affiliates and subsidiaries, many with names that include Esso, Mobil, or ExxonMobil. Nothing in this document is intended to override or supersede the corporate separateness of local entities. Responsibility for local action and accountability remains with the local ExxonMobil-affiliate entities.

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