



## Mobilgear 600 XP Series

Mobil Industrial , Malaysia

Gear Oil

### Product Description

Mobilgear 600 XP Series are extra high performance gear oils having outstanding extreme pressure characteristics and load-carrying properties, intended for use in 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 gear 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 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 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 leakage 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 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 capabilities. 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 wide 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 |
| 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 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 applications
- Marine gearing including main propulsion, centrifuges, deck machinery such as winches, windlasses, cranes, turning gears, pumps, elevators and rudder carrier
- Non-gear applications include shaft couplings, screws and heavily loaded plain and rolling contact bearings operating at slow speeds.

## Specifications and Approvals

| This product has the following approvals: | 68 | 100 | 150 | 220 | 320 | 460 | 680 |
|---|----|-----|-----|-----|-----|-----|-----|
| Flender                                   |    |     | X   | X   | X   | X   |     |
| Renk B19828 300                           |    | X   |     |     |     |     |     |
| Renk B19828 400                           |    |     | X   |     |     |     |     |
| Renk B19828 600                           |    |     |     | X   |     |     |     |
| SEW-Eurodrive                             |    |     | X   | X   | X   | X   | X   |
| ZF TE-ML 04F                              |    |     |     | X   |     |     |     |
| ZF TE-ML 04H                              |    | X   | X   |     |     |     |     |

| This product meets or exceeds the requirements of: | 68 | 100 | 150 | 220 | 320 | 460 | 680 |
|--|----|-----|-----|-----|-----|-----|-----|
| AGMA 9005-F16                                      | X  | X   | X   | X   | X   | X   |     |
| China GB 5903-2011, L-CKC                          |    |     |     |     |     |     | X   |
| China GB 5903-2011, L-CKD                          | X  | X   | X   | X   | X   | X   |     |
| DIN 51517-3:2018-09                                | X  | X   | X   | X   | X   | X   | X   |
| ISO L-CKC (ISO 12925-1:2018)                       |    |     |     |     |     |     | X   |
| ISO L-CKD (ISO 12925-1:2018)                       | X  | X   | X   | X   | X   | X   |     |

## Properties and Specifications

| Property  | 68     | 100     | 150     | 220     | 320     | 460     | 680     |
|---|--------|---------|---------|---------|---------|---------|---------|
| Grade   | ISO 68 | ISO 100 | ISO 150 | ISO 220 | ISO 320 | ISO 460 | ISO 680 |
| Copper Strip Corrosion, 3 h, 100 C, Rating, ASTM D130 | 1B     | 1B      | 1B      | 1B      | 1B      | 1B      | 1B      |
| Density @ 15.6 C, kg/l, ASTM D4052                    | 0.88   | 0.88    | 0.89    | 0.89    | 0.9     | 0.9     | 0.91    |
| EP Properties, Timken OK Load, lb, ASTM D2782         | 65     | 65      | 65      | 65      | 65      | 65      | 65      |
| Emulsion, Time to 37 mL Water, 82 C, min, ASTM D1401  | 30     | 30      | 30      | 25      | 25      | 30      | 30      |

| Property  | 68   | 100  | 150  | 220  | 320  | 460  | 680  |
|---|------|------|------|------|------|------|------|
| FE8 wear test, V50 roller wear, mg, DIN 51819-3                   | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| FZG Micropitting, Fail Stage, Rating, FVA 54                      |      | 10   | 10   | 10   | 10   | 10   | 10   |
| FZG Micropitting, GFT-Class, Rating, FVA 54                       |      | High | High | High | High | High | High |
| FZG Scuffing, Fail Load Stage, A/16.6/90, ISO 14635-1(mod)        |      | 12+  | 12+  | 12+  | 12+  | 12+  | 12+  |
| FZG Scuffing, Fail Load Stage, A/8.3/90, ISO 14635-1              | 12+  | 12+  | 12+  | 12+  | 12+  | 12+  | 12+  |
| Flash Point, Cleveland Open Cup, °C, ASTM D92                     | 230  | 230  | 230  | 240  | 240  | 240  | 285  |
| Foam, Sequence I, Tendency/Stability, ml, ASTM D892               | 0/0  | 0/0  | 0/0  | 0/0  | 0/0  | 0/0  | 0/0  |
| Foam, Sequence II, Tendency/Stability, ml, ASTM D892              | 30/0 | 30/0 | 30/0 | 30/0 | 30/0 | 30/0 | 30/0 |
| Four-Ball Extreme Pressure Test, Load Wear Index, kgf, ASTM D2783 | 47   | 47   | 47   | 48   | 48   | 48   | 48   |
| Four-Ball Extreme Pressure Test, Weld Load, kgf, ASTM D2783       | 200  | 200  | 250  | 250  | 250  | 250  | 250  |
| Kinematic Viscosity @ 100 C, mm2/s, ASTM D445                     | 8.8  | 11.2 | 14.7 | 19.0 | 24.1 | 30.6 | 39.2 |
| Kinematic Viscosity @ 40 C, mm2/s, ASTM D445                      | 68   | 100  | 150  | 220  | 320  | 460  | 680  |
| Pour Point, °C, ASTM D97  | -27  | -24  | -24  | -24  | -24  | -15  | -9   |
| Rust Characteristics, Procedure B, ASTM D665                      | PASS | PASS | PASS | PASS | PASS | PASS | PASS |
| Viscosity Index, ASTM D2270                                       | 101  | 97   | 97   | 97   | 97   | 96   | 90   |

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.as>  
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