



## Mobilgrease 28

### Supreme Performance Greases

#### Product Description

Mobilgrease 28 is a supreme performance, high temperature, antiwear grease designed to combine the unique features of a polyalphaolefin (PAO) synthetic base fluid with an organo-clay (non-soap) thickener. The wax-free nature of the synthetic base fluid, together with its low coefficient of traction compared with mineral oils, provide excellent low temperature pumpability, very low starting and running torque, and can reduce operating temperatures in the load zone of rolling element bearings. The clay thickener provides excellent stability at high temperatures and Mobilgrease 28 has a high dropping point value of 260°C. . In addition, it resists water washing, provides superior load-carrying ability, reduces frictional drag, and prevents excessive wear. Tests show that Mobilgrease 28 prevents friction oxidation (fretting) and lubricates rolling element bearings under conditions of high speeds and temperatures. It has also shown superior ability to lubricate heavily loaded sliding mechanisms, such as wing flap screwjacks. Its consistency is between an NLGI No. 1 and No. 2 grease.

Mobilgrease 28 meets the quality level of U.S. Military Specification MIL-G-81322E, General-Purpose, Aircraft, and is approved against U.S. Military Specification DOD-G-24508A (Navy) for shipboard auxiliary machinery. It can be designated U.S. Military Symbol WTR and NATO Symbol G-395.

Mobilgrease 28 has been the grease of choice for military and related applications, worldwide, for more than 30 years since its introduction. This leading product is based on the synthesized PAO base stocks that were pioneered by the R&D arm of our company resulting in step-out performance not only in grease but in many fluid lubricants, too.

#### Features & Benefits

Mobilgrease 28 is one of the Mobil brand of PAO-based products recognized and appreciated around the world for innovation and outstanding performance. These molecular design 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 Mobilgrease 28 is the close contacts between our scientists and application specialists with key OEMs to ensure that our product offerings will provide exceptional performance in the continually evolving aviation equipment designs.

Our work with equipment builders has helped confirm the results from our own laboratory tests showing the exceptional performance of Mobilgrease 28. A particular need of aviation greases is the need to resist high temperature stresses, while providing excellent starting and low torque at low-temperature. To meet this combination of needs our product formulation scientists chose proprietary synthetic base oils for Mobilgrease 28 because of their exceptional thermal/oxidative resistance potential, and superb low-temperature capability. Our formulators chose specific thickener chemistry and a proprietary additive combination which would maximize the benefits of the synthetic base oils.

Mobilgrease 28 meets the requirements of key military and commercial aviation specifications and has built up a superb reputation for performance and reliability among users around the world. Mobilgrease 28 provides the following advantages and potential benefits:

Features	Advantages and Potential Benefits
High viscosity index base stock with no wax content	Very wide operating temperature range - outstanding high and low temperature performance Excellent film protection at high temperatures Minimum resistance to start-up at extremely low temperatures
Low traction base oil	Low sliding friction and reduced heat build-up Potential for energy savings
Excellent protection against fretting wear and corrosion	Superb bearing protection and extended bearing life and reduced bearing replacement costs
Extreme-pressure characteristics	Avoids excessive wear, even under shock load

High thermal/oxidative stability

Extended re-lubrication intervals

**High thermal/oxidative stability****Extended relubrication intervals**

High resistance to water washout

Maintains excellent grease performance in adverse weather and other water-exposure conditions

Compatible with mineral-oil-base greases

Avoids complex conversion procedures from mineral products, though complete replacement needed to assure full benefits

**Applications**

Mobilgrease 28 is designed for the lubrication of plain and rolling bearings at low to high speeds, and splines, screws, worm gears, and other mechanisms where high friction reduction, low wear, and low lubricant friction losses are required. The recommended operating temperature range is -55° to 180°C with appropriate relubrication intervals.

Mobilgrease 28 meets the quality level of military specifications MIL-G-81322D for wide temperature range aviation service and approved under DOD-G-24508A for shipboard service. Specific military and civil aviation applications include:

- Landing wheel assemblies
- Control systems, screwjacks, servo devices, actuators, sealed-bearing motors and oscillating bearings
- Helicopter rotor bearings on aircraft and on naval shipboard auxiliary machinery
- It also can be used where superseded specifications MIL-G-81322 (WP), MIL-G-7711A, MIL-G-3545B, and MIL-G-25760A may be called for

Mobilgrease 28 also is recommended for industrial lubrication, including sealed or repackable ball and roller bearings wherever extreme temperature conditions, high speeds, or water washing resistance are factors. Typical industrial applications include:

- Conveyor bearings
- Small alternator bearings operating at temperatures near 177°C
- High-speed miniature ball bearings, and bearing situations where oscillatory motion, vibration, and fretting create problems.

**Specifications & Approvals****Meets the following industry and builder specification: Mobilgrease 28**

Quality Level USDA H-2

X

**Has the following builder approvals****Mobilgrease 28**

DOD-G-24508 A Amendment 1

X

**Also recommended for use in applications requiring Mobilgrease 28**

MIL-G-81322(WP)

X

MIL-G-7711A

X

MIL-G-25760A

X

**Military****Mobilgrease 28**

Approved against Mil-G-81322E quality level

X

**Typical Properties****Mobilgrease 28**

NLGI Grade

1.5

Thickener Type

Clay

Color, Visual

Red

Penetration, Worked, 25°C, ASTM D 217

280

Dropping Point, °C, ASTM D 2265

310

Viscosity of Oil, ASTM D 445

cSt @ 40°C

29.3

Low Temp. Torque at 54°C

Low Temp. Torque at -34 C	
Starting, g-cm	10000
Running, g-cm	1000
Penetration, Worked, FTM 313, X100,000, 1/16" holes, mm/10	320
Oil Separation, 30 hr. at 177°C, ASTM D 6184, vol-%	2.5
Evaporation Loss, ASTM D 2595, 22 hrs @ 177°C, vol-%	5.2
Copper Strip Corrosion, ASTM D 130, 24 hrs @ 100°C	1B
4 Ball Wear, ASTM D 2266, Scar,mm	0.5
Load Carrying Capacity, ASTM D 2596, Load Wear Index, kgf	44

## Health & 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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