

# Mobilgrease® 28

## Supreme Performance Greases

### Product Description

Mobilgrease 28 is a supreme performance, high temperature, antiwear grease combining 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 the potential to 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 widely used for military and related applications, worldwide, for more than 30 years. 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 many Mobil branded PAO-based products recognized around the world for innovation and outstanding performance. Synthetic products like Mobilgrease 28 represent ExxonMobil's, continuing commitment to using advanced technology to provide outstanding products. Close contacts between ExxonMobil scientists and application specialists and key equipment builders ensure that our products meet the needs of the latest aviation equipment designs.

Good resistance to high temperature stresses and excellent starting and low torque at low-temperature are two of the most important requirements of aviation greases. 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 an excellent 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 relubrication intervals
High resistance to water washout	Maintains excellent grease performance in adverse weather and other water-exposure conditions

## 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-81322 for wide temperature range aviation service and is 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 and Approvals

(Meets/Meets or Exceeds/Exceeds) the following industry specifications	Mobilgrease 28
Quality Level USDA H-2	X

  

Has the following builder approvals	Mobilgrease28
DOD-G-24508 A Amendment 1	X



Recommended for use in applications requiring	Mobilgrease28
MIL-G-81322(WP)	X
MIL-G-7711A	X
MIL-G-25760A	X
Military	Mobilgrease 28
Approved against MIL	
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	
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

## Precautions

Mobilgrease 28 is manufactured from high quality synthetic base oil, carefully blended with selected soaps and additives. As with all petroleum products, good personal hygiene and careful handling should always be practised. Avoid prolonged contact to skin, splashing into the eyes, ingestion or vapour inhalation. High-pressure injection of any grease under the skin can cause serious delayed soft tissue damage and should be treated immediately by a physician. To avoid injection injuries, inspect greasing equipment regularly for worn hoses and fittings. Keep fingers away from the nozzle and ensure the nozzle is firmly in place before discharging the grease. Please refer to our Imperial Oil Material Safety Data Sheet for further information.

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

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