



## Mobil Polyrex EP 2

Mobil Grease , Canada

Multi-purpose Grease

### Product Description

Mobil Polyrex EP 2 is a shear-stable polyurea grease with excellent extreme-pressure (EP) and load-carrying characteristics. The proprietary polyurea thickener system exhibits excellent resistance to oxidation and oil separation at operating temperatures as high as 160°C (320°F). With its outstanding high-temperature oxidation stability, load-carrying capability, shear stability, water resistance and wide operating temperature range, Mobil Polyrex EP 2 is an excellent multi-purpose grease for a wide array of industrial and construction applications.

### Features and Benefits

#### EXTREME-PRESSURE PROTECTION AND THERMAL STABILITY

Mobil Polyrex EP 2 contains a proprietary extreme-pressure (EP) additive package that provides load-carrying capability without degrading the thermal stability of the grease at high temperatures. Conventional sulfur- and phosphorus-base EP additives used in other multi-purpose greases begin to oxidize rapidly at temperatures above 250°F. Mobil Polyrex EP 2, on the other hand, continues to provide a high level of wear and extreme-pressure protection up to 160°C (320°F) without rapid oxidation of the anti-wear or EP additives.

The outstanding high temperature lubrication life of Mobil Polyrex EP 2 is impressively demonstrated in the ASTM D 3336 grease life test - with an average ASTM D 3336 life of 490 hours, 3 to 5 times better than the high-temperature lubrication life of competitive multi-purpose lithium-base greases.

#### SUPERB SHEAR STABILITY

The proprietary polyurea thickener system in Mobil Polyrex EP 2 exhibits excellent durability and stability when subjected to a mechanical shearing force. For example, in the ASTM D 217 cone penetration test, the consistency of Mobil Polyrex EP 2 changed by approximately one NLGI grade after being worked for 100,000 strokes - similar to the performance of high-quality lithium-complex greases, which are the benchmark for excellent shear stability. By contrast, competitive polyurea greases containing shear-unstable thickener technology can soften by three NLGI grades under the same test conditions. Good mechanical shear stability is important in roller bearing applications where excessive grease softening may lead to grease leakage or purging from the bearing.

#### EXCELLENT WATER RESISTANCE

The Mobil Polyrex EP 2 formulation is enhanced with water-resistant polymers that enable it to form a tenacious protective film in applications that are heavily contaminated with water. The excellent results obtained for Mobil Polyrex EP 2 in the water washout (ASTM D 1264) and water spray-off (ASTM D 4049) tests demonstrate the grease's ability to stay in place, even in the presence of a pressurized water spray.

In summary, Mobil Polyrex EP 2 offers the following features and benefits:

- Outstanding high-temperature oxidation stability
- Excellent mechanical shear stability
- Thermally stable extreme-pressure (EP) protection
- Wide operating temperature range -20°C (-4°F) to 160°C (320°F)
- Exceptional resistance to water spray-off and water washout

### Applications

Mobil Polyrex EP 2 is an excellent multi-purpose grease for a wide array of industrial and construction applications.

### Typical Properties

Mobil Polyrex EP 2	
Thickener Type	Polyurea
NLGI Grade	2

Mobil Polyrex EP 2	
Color	Green
Base Oil Viscosity, ASTM D 445	
cSt @ 40°C	235
cSt @ 100°C	18.4
Mineral Oil Viscosity Index, ASTM D 2270	85
Penetration, ASTM D217 worked, 60x, mm/10	280
Penetration, ASTM D217 worked, 100,000, mm/10	310
Dropping Point, ASTM D 2265, °C (°F)	280 (535)
High Temperature Grease Life, ASTM D 3336, Hours @ 177°C	490
4-Ball Weld, ASTM D 2596, kg	500
4-Ball Wear Scar Diameter, @1200 rpm, 40kg, 75°C, 1 Hour, mm	0.4
Timken OK Load, ASTM D 2509, lb	45
Low Temperature Torque, ASTM D 4693, -40°C, Nm	12.2
Low Temperature Torque, ASTM D 1478, Torque @ Startup/1 Hour in gcm and -20C°	1600/180
Oil separation test, ASTM D 1742, %	<0.3
Water Spray-off, ASTM D 4049, %	15
Water Washout, ASTM D 1264, @ 79°C, %	2.7
Rust Protection, ASTM D 1743	Pass

## 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.aspx>

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