



Mobil Polyrex EP 2

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
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 D 217 worked, 60x, mm/10	280
Penetration, ASTM D 217 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

Healthy skin condition depends on cleanliness. Oils and greases in contact with skin can result in plugging of sweat glands and hair follicles. This may lead to skin irritation or dermatitis. Accordingly, protective gloves, clothing and equipment should be worn and good personal hygiene should always be practiced. Oils, greases, and other foreign materials should be removed from the skin promptly. Soiled clothing should not remain in contact with the skin. Mobil Polyrex EP 2 is readily removed from the skin by waterless hand cleaners followed by washing with soap, warm water, and a skin brush. It can be removed from clothing by dry-cleaning with solvents or by washing with laundry detergents. If Mobil Polyrex EP 2 comes in contact with the eyes, flush the eyes with fresh water until the irritation subsides.

As in the case of all greases, if there is a puncture wound with grease contamination, or an injury where grease is injected into body tissue, such as a "grease gun injury," prompt medical assistance should be obtained.

WARNING: "Empty" containers retain residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks or other sources of ignition; they may explode and cause injury or death. Do not attempt to clean since residue is difficult to remove, and even a trace of remaining material constitutes an explosive hazard. "Empty" drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with

governmental regulations.

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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1-2015

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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. 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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