


















Mobil Polyrex EM

The Quiet Revolution in
Motor Bearing Lubrication



Mobil Polyrex EM

Performance Capabilities	Types of Greases		
	Conventional Polyurea	Conventional Lithium Complex	Advanced Polyrex EM
Exceptional life at high temperatures			
Consistent lower noise characteristics			
Superb ability to maintain structure with repeated stresses			
Enhanced compatibility with other greases			
High dropping point			
Excellent rust and corrosion protection			
Easy to pump			



Mobil Polyrex EM

Outstanding Performance in Electric Motor Bearing Lubrication

Bearing performance is the most critical factor affecting the reliability of electric motors. In response to the need for improved electric motor reliability, Polyrex EM, a grease with outstanding performance in electric motor bearing lubrication has been developed. Polyrex EM combines an advanced polyurea thickener with newly developed and innovative manufacturing technology to provide improved bearing performance, protection and longer life. Key performance features include:

- Long, reliable service life, even at high temperatures.
- Greater durability, even when subjected to extended mechanical shearing forces.
- Low noise properties for a quieter operation.
- Resistance to water washout.
- Resistance to rust and corrosion, even when exposed to fresh and mild salt water wash conditions.

Good Compatibility With Other Greases

When using grease as a lubricant, the question of mixing two or more greases often arises. Are the greases compatible or incompatible? Incompatibility can result in significant changes in the chemical and physical properties of the grease and lead to component failure. Compatibility then, is an important issue across the spectrum of applications where grease is used.

Polyrex EM has demonstrated compatibility with a range of competitive mineral oil based polyurea and lithium complex electric motor greases. However, best practice is to purge the old grease in the bearing prior to adding Polyrex EM, whether or not greases are compatible. Also lubrication frequencies should be increased for the first two maintenance cycles.

If you have a specific question about grease compatibility, please contact your local ExxonMobil sales engineer or distributor.



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Low Noise Properties

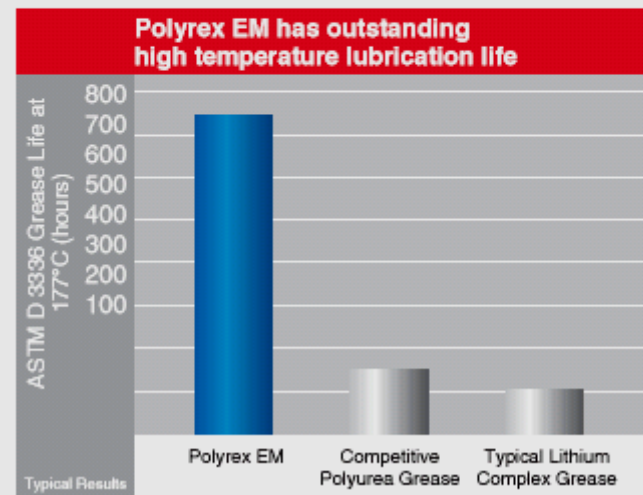
Noise is simply unacceptable in many electric motor applications. Noise and vibration can be generated when bearing rolling elements are displaced as they collide with and roll over solid particles trapped in the grease; this includes external contaminants, as well as elements of the thickener.



The advanced thickener and proprietary manufacturing techniques of Polyrex EM provide the consistently low noise performance desired in noise sensitive applications. In addition, ExxonMobil tests noise levels systematically to ensure Polyrex EM's low noise performance.

Longer Life at Elevated Temperatures

In the ASTM D 3336 high temperature bearing life test, Polyrex EM achieved more than four times the life of other polyurea thickened greases and more than seven times the life of a typical mineral oil based lithium complex grease.



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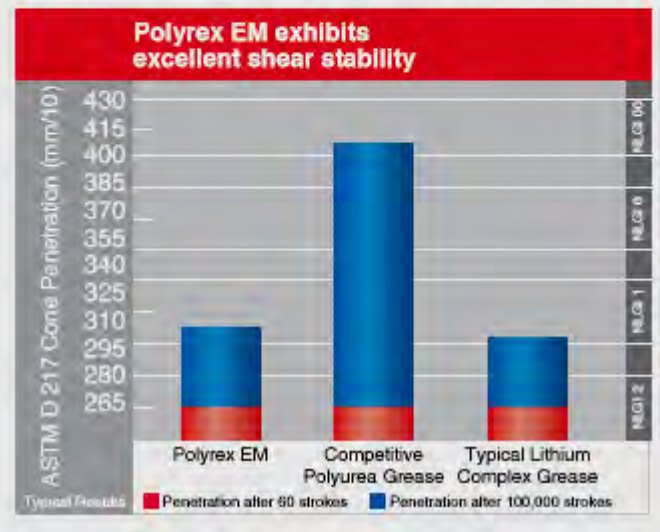
Good Corrosion Resistance

One of the leading contributors to bearing wear is corrosion that develops during idle periods in humid environments. Polyrex EM is designed to protect against corrosion under these conditions. Polyrex EM shows good performance in the ASTM D 1743 test, commonly used to assess the ability of a grease to prevent corrosion in bearings that are exposed to water and stored.

Additionally, bearings filled with Polyrex EM showed no signs of corrosion in the ASTM D 6138 test when using 10% synthetic seawater. This is a test method commonly used to determine the ability of a grease to prevent corrosion in bearings in the presence of distilled water, sodium chloride solution or synthetic sea water, under dynamic and static conditions.

Longer Life with Reduced Softening

Polyrex EM displays excellent shear stability when compared to conventional polyurea greases that soften after prolonged working of 100,000 strokes. This means that Polyrex EM resists changes in consistency in normal use over extended periods of time. The result is longer grease life and improved bearing protection.



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Performance Advantages that are Loud and Clear

Polyrex EM meets the most demanding lubricating requirements for electric motors. It may run quiet in the bearings but its advanced performance is loud and clear. This could help you save money through longer equipment life, reduced downtime and reduced labour and plant operating costs.



Mobil Polyrex EM Series

Electric-Motor Bearing Grease

Product Description

Super-premium Mobil Polyrex EM Series grease is specially formulated for electric-motor bearings. The advanced thickener formulation and proprietary manufacturing techniques provide improved bearing performance and protection for long electric motor life.

Features & Benefits

Mobil Polyrex EM and Mobil Polyrex EM 103 offer the following features and benefits:

Features	Advantages and Potential Benefits
Outstanding grease life	Outstanding long-life, high-temperature lubrication of ball and roller bearings, particularly in sealed-for-life applications
Advanced polyurea thickener	Increased durability versus conventional polyurea greases when subjected to mechanical shear forces
Excellent corrosion resistance	Mobil Polyrex EM and Mobil Polyrex EM 103 provide protection against rust and corrosion. Mobil Polyrex EM provides additional protection under mild salt-water wash conditions versus Polyrex EM 103
Low-noise properties	Mobil Polyrex EM is suitable for lubrication of ball bearings in many noise-sensitive applications

Applications

Mobil Polyrex EM greases are recommended by many major bearing and electric motor manufacturers for long-life lubrication of electric motor ball and roller bearings.

Mobil Polyrex EM 103 is more specifically recommended for applications such as vertically mounted bearings, or very large motors where a stiffer grease consistency may be required by the OEM, and low noise properties are not required.

Mobil Polyrex EM greases have been shown to be compatible with a number of ExxonMobil lithium complex greases, as well as competitive electric motor mineral polyurea products, as determined by the methodology of ASTM D6185. For specific questions about grease compatibility, contact your Mobil representative.

Key applications include:

- Electric-motor bearings
- Fin-fan bearings
- High-temperature pump bearings
- Factory-filled, sealed-for-life ball bearings
- Ball or roller bearings operating at high temperatures where low oil separation is required
- Polyrex EM for ball or roller bearings operating in noise sensitive environments



Typical Properties

	Mobil Polyrex EM	Mobil Polyrex EM 103
NLGI Grade	2	3
Color	Blue	Blue
Base Oil Viscosity, ASTM D 445		
cSt @ 40°C	115	115
cSt @ 100°C	12.2	12.2
Mineral Oil Viscosity Index, ASTM D 2270	95	95
Penetration, ASTM D217 worked, 60x, mm/10	285	250
Penetration Change after 100.000 strokes, ASTM D217, mm/10	40	40
Dropping Point, ASTM D 2265, °C	260	270
Oil separation test, ASTM D 1742, %	0.5	0.1
High Temperature Grease Life, ASTM D 3336, Hours @ 177°C	750+	750+
4-Ball Wear Scar, ASTM D 2266, @ 40kg, 1200 rpm, 75°C, 1 hr, mm	0.41	0.6
Low Temperature Torque, ASTM D 1478, g-cm @ -29°C		
Starting	7500	9300
Running	800	1000
EMCOR Corrosion Performance, 10% Synthetic Sea Water ASTM D 6138 (Prepared As Per ASTM D 665B)	0,1 (No Rust)	-
Rust Protection, ASTM D 1743, Distilled Water	Pass	Pass
Copper Corrosion Resistance, ASTM D 4048	1A	1A
Water Washout, ASTM D 1264, %	1.9	0.8

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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