



Krytox™ XP 1A7, GPL 107, GPL 207, and GPL 227

Performance Lubricants

High performance greases and oils for bearings, valves, seals, and other applications over a wide temperature range

Product Information

Krytox™ oils and greases are based on perfluoropolyether (PFPE) oils. These synthetic fluorinated lubricants are used in extreme conditions, such as continuous high temperatures up to 288 °C (550 °F), and higher temperatures for shorter periods, depending on product grade limits. Chemically inert and safe for use around hazardous chemicals and reactive gases, these lubricants are nonflammable and safe for use in oxygen service. Krytox™ oils and greases do not damage plastics or elastomers, nor cause corrosion to metals. Krytox™ lubricants provide an exceptionally long lifetime in sealed-for-life bearings and extend re-lubrication intervals in bearings that do require re-lubrication. Typical applications include automotive, sealed pump, electric motor, and general-purpose bearings.

Krytox™ PFPE has the following chemical structure:



Krytox™ Oil Grade GPL 107

Krytox™ oil grade GPL 107 is a clear, colorless fluorinated synthetic oil that is non-reactive, nonflammable, safe in chemical and oxygen service, and long lasting.

Krytox™ Grease Grade GPL 207¹

Krytox™ grease grade GPL 207 is thickened with polytetrafluoroethylene (PTFE), contains no additives, and can be used on components that come into contact with chemicals. Typical applications include valves, instruments, or bearings that contact chemicals, including alcohols, ammonia, solvents, steam, acids, bases, and oxygen systems, including LOX and GOX. Krytox™ GPL 207 is commonly used as a seal and O-ring lubricant, compatible with seals typically used in industry, and also NSF H-1 food grade registered.

Krytox™ Grease Grade GPL 227²

Krytox™ grease grade GPL 227 contains an anti-corrosion/anti-wear inhibitor and is ideal for corrosive environments where there is no danger of the sodium nitrite additive reacting with chemicals or causing contamination problems. Krytox™ GPL 227 is also NSF H-1 food grade registered.



Krytox™ lubricants have been used in the power generation industry since the 1980s in both common and extreme applications, from turbine auxiliary systems to power plant maintenance, repair, and operations (MRO).

Krytox™ Oil Grade XP 1A7

Krytox™ oil grade XP 1A7 is formulated using a patented soluble additive for superior anti-wear/extreme pressure performance and corrosion protection.

Krytox™ oils and greases are silicone-free. They do not contain any volatile organic compound materials or chlorine and are not hazardous to the atmosphere or ozone layer. They are biologically and environmentally inert.

The fully fluorinated Krytox™ lubricant high-temperature stability provides bottom-line savings from improved reliability and a reduction in grease usage and manpower through extended re-lubrication intervals. Excellent film strength reduces wear to lower maintenance costs. Under high loads, the viscosity increases to provide support and absorb pressure.

Preparing the Application for Krytox™ Lubricant

New components often have organic rust preventive oils or greases on them to prevent damage while they are in storage before use. New bearings should be inspected for damage and cleanliness before use. The components must be completely cleaned of greases or preservative oils when preparing to use Krytox™ lubricant. Failure to do so could

¹Krytox™ GPL 207 is NSF152950 registered.

²Krytox™ GPL 227 is NSF147520 registered.

result in reduced bearing life. Bearing life tests on uncleansed bearings have shown reduced life in high temperature, high speed tests, where the bearing was filled with a minimum amount of grease. The preservatives coat the metal surface to prevent rusting, so they can also prevent the grease from adhering, causing them to be thrown off by the action of the bearing. They could also oxidize and harden, creating debris that will contaminate the grease.

These greases are compatible with other PFPE/PTFE greases, but PFPE lubricants should not be mixed with other common types of lubricants.

Packaging

Krytox™ greases are available in 2 oz and 8 oz tubes, 0.5 kg and larger containers, and 0.8 kg/1.75 lb cartridges. Oils are available in 0.5 kg and larger bottles as well as pails.

Storage and Shelf Life

The XP series of Krytox™ lubricants can develop an odor and slight amber/pinkish color over time. The XP series has a three-year shelf life and recommended maximum operating temperature of 182 °C (360 °F). Testing has shown that these products retain their anti-rust and anti-wear properties and perform well past the end of the recommended three-year shelf life. Keep product sealed, and store in a cool, dry place.

Product Properties of Krytox™ GPL 107, GPL 207, GPL 227, and XP 1A7

Typical Properties	GPL 107	GPL 207	GPL 227	XP 1A7
Anti-Corrosion Additive	No	No	Yes	Yes
Extreme Pressure Additive	No	No	No	Yes
Anti-Rust Rating, ASTM D1743	NA	NA	Pass	Pass
Appearance	Clear Oil	White, Creamy Consistency	White, Creamy Consistency	Clear Oil
4 Ball Wear, ASTM D4172 (oil)/D2266 (grease) 40 kg, 1200 rpm, 1 hr at 75 °C (167 °F)	0.6	0.4	0.4	0.3
Estimated Useful Temperature Range, °C (°F)	-30 to 288 (-22 to 550)		-30 to 182 (-22 to 360)	
Base Oil Viscosity, cSt				
20 °C (68 °F)		1535		
40 °C (104 °F)		450		
100 °C (212 °F)		42		
204 °C (400 °F)		6		
Oil Viscosity Index	145			
Oil Separation, wt% after 30 hr, 99 °C (210 °F)	4			
Max. Oil Volatility, % in 22 hr, D2595 204 °C (400 °F)	<1			
Dropping Point	NA			
Standard NLGI Grade (others available on special request)	—	2	2	—

Note: These values are typical properties and not specifications.

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For product information, industry applications, technical assistance, or global distributor contacts, visit krytox.com or within the U.S. and Canada, call 1-844-773-CHEM/2436 or outside of the U.S., call 1-302-773-1000.

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