

DuPont™ Krytox®

food grade lubricants

FG Application Guidance

Krytox® oils and greases are synthetic lubricants that have been used for many years in extreme conditions such as continuous high temperatures up to 300°C (572°F) and higher, depending on the grade. Krytox® oils and greases are silicone-free. They do not contain any VOC materials or chlorine and are not hazardous to the atmosphere or ozone layer. They are biologically and environmentally inert. The oil is clear with no color, and the grease is white.

Compatibility

Krytox® lubricants are inert and will not react with any materials they may come in contact with. While Krytox® greases are nonreactive, they have different chemistries than other lubricants and should not be mixed with non-PFPE greases.

Cleaners and disinfectants, both acidic and caustic types, do not affect Krytox®. Steam and high temperatures will not damage it. Krytox® does not damage plastic or elastomer seals or cause corrosion to metals. The products are nonflammable and are safe for use in oxygen service. These products are not intended to be used as direct food additives. In addition to our new Krytox® FG lubricants, many of our standard Krytox® grades have an H-2 rating. Please contact us for a complete listing.

Preparing the Bearing or System

Because of the unique nature of the Krytox® molecule, its performance is optimized when it is applied to a clean surface. Most bearings and equipment come with a preservative coating on them and bearings often have a lubricant already applied. These greases and preservatives should be removed before the Krytox® is applied. The preservatives and greases coat the metal surface to lubricate and prevent rusting, so they can also prevent the Krytox®

grease from adhering—causing it to be thrown off by the action of the bearing. These hydrocarbon based materials also will oxidize and harden and can create debris that will contaminate the Krytox®.

They can be removed using the standard solvents and hydrocarbon cleaners that you have always used. Do not use chlorinated solvents as they can cause corrosion to begin. Because you will be removing all rust preventive coatings, you should do this cleaning just before you plan on lubricating and installing the bearing or equipment. If you clean the parts and do not immediately relubricate them, you must keep them in a clean dry location to prevent rusting.

Packing Bearings with Grease

New bearings should be inspected for damage and cleanliness before use. Even though they are new, they can have damage from shipping, which could result in reduced bearing life.

Proper lubrication is achieved by using the correct amount of grease. Too little grease in the bearings causes premature failure. Too much grease at the initial fill or during relubrication can cause overheating of bearings that are running at medium to high speed, resulting in bearing failure. The amount of grease put in the bearing depends on the application and operating speed. For applications such as conveyor rollers and low-speed machinery with DN values (inner race ID in mm x rpm) below 50,000, the bearing can be filled to about 70–75%. For medium-speed applications, i.e., DN 50,000 to 200,000, the bearing can be filled 35–40%. For higher-speed systems, the fill is typically 25–35%. Some extreme-speed special applications have grease fills of only 10–15%. Because Krytox® is heavier than standard hydrocarbon lubricants, its higher density (1.9 density) must be considered when determining the fill quantity by weight.

Relubrication

Because Krytox® does not oxidize like other lubricants and has higher thermal stability, it does not require frequent relubrication. Relubrication intervals are determined based on many conditions, including whether the system is sealed to keep lubricant in and dirt out and operating conditions such as temperature, load, and speed. Because Krytox® does not oxidize and harden, it will not

form hard or gummy deposits that must be pushed out using fresh grease to keep the bearing from locking up. Because Krytox® is always working, you only need to add a small amount to replace any that has leaked out or been consumed.

Bearing life increases of 5 to 50 times have been observed in applications where Krytox® has replaced other lubricants.

For more information or technical assistance, call:

(800) 424-7502

or visit us on the Web:

<http://www.krytox.com>

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