

For Automotive Noise, Vibration, and Harshness

Product Information

Krytox[™] Lubricants Can Help Solve Your Customer's Toughest Complaints.

Inside an automobile's interior, there are a variety of places with tight tolerances between materials that are susceptible to noise, vibration, and harshness (NVH) issues. These materials include metal on plastic, leather on leather, weather stripping, and many others. Movement between these surfaces often results in a series of noises typically described as squeak, itch, or judder. Krytox lubricants can permanently eliminate these noises with just a small amount of lubricant at the interface.

Because these lubricants are intended to be a one-time application, it is important to choose a solution that will remain in place over the normal useful life of the vehicle. And because the application occurs on the production line, it is important that this lubricant is easy to apply. Krytox oils and greases are the answer.

Krytox" lubricants stand up to harsh environments and large temperature fluctuations to lubricate parts prone to noise and wear. When used on moving parts or at interfaces between unlike materials, Krytox" lubricants can minimize the shock and stress that cause squeaks, rattles, and damage. And, when used on weather stripping, Krytox" lubricants prevent cracking, shrinking, and swelling to help reduce noise, drafts, and water leakage.

Krytox[™] oils and greases are compatible with a wide variety of materials, and they have the ideal frictional and long life characteristics to solve noise, vibration, and harshness challenges.

Oils and Greases That Work in Demanding Real-Life Applications

Reliable high-performance fluoropolymer lubricants from Chemours can prevent unwanted noises without relubrication. Krytox[™] oils and greases are easy to apply and, with low volatility, low migration, and excellent contamination resistance, are long-lasting in the most demanding automotive applications.

Krytox™ High-Performance Lubricants Value

- Long-lasting, cost-effective lubrication—Krytox[™] lubricants prevent unwanted noises without re-lubrication. And, Krytox[™] stays put, so you can apply a small amount without fear of migration.
- Material compatibility—Because Krytox[™] lubricants are compatible with metals, elastomers, leathers, and plastics, they won't damage the components, allowing them to last as designed.
- Chemical compatibility and environmental safety—Krytox[™] lubricants are chemically, biologically, and environmentally inert, as well as silicone-free. And, they contain no hazardous volatile organic compounds.
- Lubricity—Krytox™ oils and greases provide excellent lubricity because of its low coefficient of friction and low surface energy; and because it doesn't oxidize, it won't turn sticky or change color.

Application Guidance

The typical coverage for Krytox" oils and greases when properly applied, is approximately 4 g/m². Most applications require less than 0.2 g. Each application must be considered separately in order to ensure the best solution is found. There are two main components of any application method:

- 1. Controlled metering of the material from the container to the applicator. This is best done automatically to ensure accuracy and repeatability.
- Transfer of the material from the applicator to the component. This can be either a manual application, using a brush or foam applicator, or automatically—either by spraying or wiping by robot or specially designed jig.

Application Examples

Automakers from around the world have a long history of using Krytox[™] oils and greases to help eliminate automotive squeaks and rattles.

Here are just a few of the many pain points Krytox[™] lubricants have been proven to help silence:



| Commonly Used Grades of Krytox" Oils and Greases | |
|--|---|
| Krytox [™] Grade | Description |
| GPL 104, GPL 105, GPL 106, GBO14, AUT U14 Oil | Clear, water-white colorless oil of various viscosities |
| GPL 204, GPL 205 Grease | White grease with various base oil viscosities |
| GPL 214, GPL 215 Grease | Black grease with various base oil viscosities |

- Leather trim, seats, and console parts—Leather-onleather friction can create an irritating noise. Krytox[™] gets rid of the itch without staining the leather or becoming sticky over time.
- Plastic door panel and metal frame—Because Krytox[™] lubricants are compatible with metals, elastomers, and plastics, they effectively silence noise caused by the interaction of various materials. And, Krytox[™] lubricants won't oxidize or discolor plastic. Apply by hand or using an automated dispensing system.
- Rubber gaskets and seals—A thin film of Krytox[™] grease or oil can lubricate sliding contact in convertible tops, sunroofs, trunk lids, and doors to prevent stick-slip and to keep the rubber compound in good condition. Grease or oil can be applied by hand, or a jig can be used to guide the application.
- Window lift systems and weather stripping—Krytox™ lubricants can stop weather strip "bunching" and "gathering," and help eliminate the wind noise produced as window glass is raised. Awkward configuration of these seals usually means that automatic application

 Facia and Trim Par is difficult. An automatic dispenser

is difficult. An automatic dispenser in conjunction with disposable foam applicators is often used. The amount can be controlled by ensuring a preset quantity is dispensed directly from the supply onto the applicator.

Application Systems

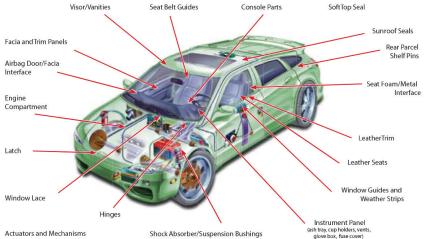
There are several manufacturers of equipment that can be used for these applications. The systems can be purchased from one source or fabricated

locally from many sources. Automatic dispensing systems for adhesives, sealants, or lubricants can be used as the supply system. Manufacturers such as GRACO, Hydrotech, LCC-Dispensit, or a local distributor can provide controlled application systems for precise dispensing.

Use of disposable foam tips or brushes can allow accurate coverage of most shapes. Companies such as Designetics or others can provide help in this area.

Choose Krytox[™] high-performance lubricants for long-lasting lubrication that helps improve vehicle performance and customer satisfaction.

Whatever your engineering challenge—longer part life, noise elimination, reduced failures—performance lubricants from Chemours can help. At Chemours, we put our science to work to produce lubricants that can stand up to today's toughest engineering design demands. It's reliability you can count on, from a name you trust.



The information set forth herein is furnished free of charge and based on technical data that Chemours believes to be reliable. It is intended for use by persons having technical skill, at their own discretion and risk. The handling precaution information contained herein is given with the understanding that those using it will satisfy themselves that their particular conditions of use present no health or safety hazards. Because conditions of product use are outside our control, Chemours makes no warranties, express or implied, and assumes no liability in connection with any use of this information. As with any material, evaluation of any compound under end-use conditions prior to specification is essential. Nothing herein is to be taken as a license to operate under or a recommendation to infringe any patents.

NO PART OF THIS MATERIAL MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM OR TRANSMITTED IN ANY FORM OR BY ANY MEANS ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING OR OTHERWISE WITHOUT THE PRIOR WRITTEN PERMISSION OF CHEMOURS.

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.

© 2015 The Chemours Company FC, LLC. Krytox[™] and any associated logos are trademarks or copyrights of The Chemours Company FC, LLC. Chemours and the Chemours Logo are trademarks of The Chemours Company.