



Krytox[®]

performance lubricants

Spark Plug and Boot Lubrication

As automakers strive for extended warranties, many designers are discovering the value of Krytox[®] high performance synthetic lubricants from DuPont.

Description

Krytox[®] is a DuPont trademark for a family of perfluoropolyether (PFPE) synthetic oils and greases. Krytox[®] lubricants exhibit long-term wear resistance, superior lubricity, thermal stability up to 343°C (650°F), and chemical resistance in the most severe environments. Krytox[®] lubricants also exhibit outstanding dielectric properties that make them a lubricant of choice in electrical applications.

Spark Plug Boot

The extension of engine maintenance intervals to 100,000 miles has introduced a problem with silicone bonding between the spark plug and the boot. The application of Krytox[®] grease has been proven to provide a physical barrier between boot and plug to prevent silicone bonding. In addition, the dielectric capability of the interface is improved. Krytox[®] on the threads keeps it from seizing and allows proper seating.

Advantages with Krytox[®]

- Provide excellent dielectric capability
- Prevent silicone bonding between boot and plug
- Sustained engage/disengage forces
- Prevent chemical effects on boot/plug interface
- Boot/plug interface operable at temperature extremes
- Ease of processing

Processing Technique

Krytox[®] GPL greases can be processed and applied with standard grease equipment. Boot suppliers are able to supply and meter Krytox[®] lubricants with high repeatability for quality control.

Spark Plug Insulators

In cold start engine tests, spark plugs coated with DuPont Dry Films (DF) yielded better cold start results than uncoated or silicone-coated plugs. The plugs coated with DuPont DF exhibited 115 continuous cold starts versus 20–35 cold starts for uncoated and silicone-resin coated plugs. The tests, conducted at 20°C (68°F), measures the average shunt resistance between the center electrode and the shell or ground. The application of DuPont DF dramatically improves cold start performance, which can reduce predelivery fouling.



Advantages with DuPont DF

- Improved cold start performance
- Reduced predelivery fouling

Processing Technique

DuPont DF products are available in dispersions with water, isopropyl alcohol, and HCFC-141b. DuPont DF products can be diluted to optimize coating thickness. Parts are easily coated by spraying, dipping, or fusing.

Competitive Products Evaluated

Krytox® greases have undergone extensive testing on spark plug boots to determine durability and effectiveness after aging. Krytox® greases have been tested side by side with silicone greases, PTFE, and titanium dioxide. In each case, Krytox® was found to be superior and is now being used by many automakers and boot suppliers to prevent silicone-silicone bonding.

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