

MOLYKOTE® Specialty Lubricants for HV connectors

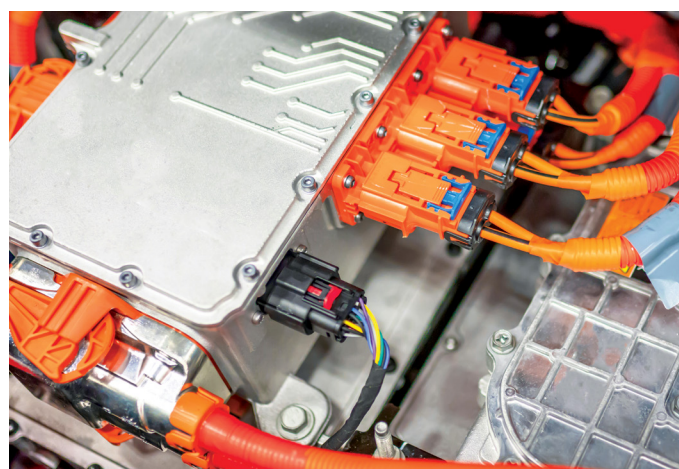
Lubricants for high-voltage connectors to ensure proper sealing performance and consistent electrical conductivity over time

Ensure reliability of high-voltage connectors in EVs

The number of high-voltage connectors in electrified vehicles has increased significantly. Functionality of these connectors is key to ensuring smooth operation of the car.

Moisture creep-in is prevented by an elastomer seal. This seal needs to be lubricated to avoid microcracking during assembly and to simplify assembly in general. **MOLYKOTE® 111 Compound** and **MOLYKOTE® HP-300 Grease** perfectly meet this need and provide additional sealing performance due to their excellent resistance against water. Both products have high dielectric strength and will retain their functionality in high-voltage environments.

Additionally, the seal's metal pins require lubrication to ensure consistent electrical conductivity over time. **MOLYKOTE® L-8030 Semi-Dry Lubricant** minimizes wear and fretting corrosion caused by vibrations and results in lower insertion force while protecting metal from



oxidation. Tests in the field showed no change in electrical conductivity, as well as consistent friction values over 250+ mating cycles, when MOLYKOTE® L-8030 Semi-Dry Lubricant was used.

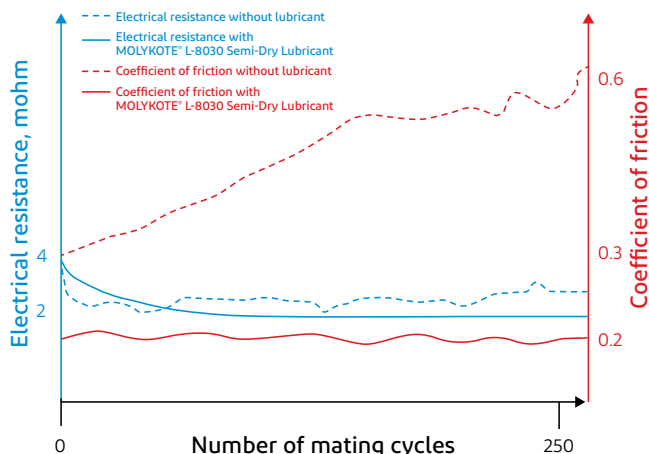
High dielectric strength & good elastomer compatibility

Specification writers: These values are not intended for use in preparing specifications. Please contact your local MOLYKOTE® sales representative prior to writing specifications on these products.

Property	Method ⁽¹⁾	MOLYKOTE® 111 Compound	MOLYKOTE® HP-300 Grease
Dielectric strength, 50 mils gap	ASTM D149	320 volts/mil	296 volts/mil
Dielectric strength, 10 mils gap	ASTM D149	476 volts/mil	631 volts/mil
Dielectric constant, 1 kHz	ASTM D150	2.75	1.99
Dielectric constant, 1 MHz	ASTM D150	2.81	2.02
Dielectric constant, 10 MHz	ASTM D150	2.74	2.00
Arc resistance (mean)	ASTM D495	184 sec	>420 sec
Volume change, rubber (SRE-NBR-28/PX, 168 h at 70°C)	ASTM D471	-0.4%	-0.1%
Waterproof seal (24 h at 25°C)	AMS 8660	Pass	Pass

⁽¹⁾ASTM: ASTM International. AMS: Aerospace Materials Specification.

Constant electrical conductivity over multiple mating cycles



Features of MOLYKOTE® Specialty Lubricants

Seal lubrication

MOLYKOTE® 111 Compound

- Compatible with many plastics and elastomers
- Excellent water resistance
- Very low vapor pressure/volatility (only 0.8 wt% evaporation after 30 h at 204°C)

MOLYKOTE® HP-300 Grease

- Excellent plastic and elastomer compatibility
- Superior resistance to chemicals and solvents (including water)
- High-temperature resistance (up to 250°C)
- Very low vapor pressure
- High dielectric strength and arc resistance

Metal pin lubrication

MOLYKOTE® L-8030 Semi-Dry Lubricant

- Good compatibility with plastics and elastomers
- Not sticky after dried
- Super-thin, transparent lubricating layer
- Does not impact electrical conductivity

About MOLYKOTE® Specialty Lubricants

Since 1948, customers around the world have trusted the MOLYKOTE® brand for performance and expertise to help solve complex, technical design and lubrication challenges. Today, our greases, compounds, pastes, dispersions, oils and fluids, and anti-friction coatings support customers' innovation, performance and sustainability needs. To learn more about our extensive product and service offering, to utilize our interactive product selection tool, or to locate a distributor, visit molykote.com.



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