

MOLYKOTE®

DUPONT™

# ***Smart Lubrication***<sup>™</sup> for vehicle electrical systems



# Design for increased electrification, connectivity and reliability

Meet your critical lubrication requirements for advanced electrical systems design with MOLYKOTE® brand specialty lubricants from DuPont. With our in-depth expertise, a heritage of innovation, problem-solving collaboration, and reliable global supply and technical support, these high-performance *Smart Lubrication*™ solutions are precisely formulated and application-matched to help you achieve:

- **Energy efficiency** with reduced friction losses and increased wear control
- **Comfort and design** with enhanced smoothness and reduced noise and vibration
- **Safety** with added component reliability, less wear and more corrosion resistance
- **Sustainability** with increased process efficiency and durable component service life

Design for increased electrification, connectivity and reliability with a choice of MOLYKOTE® brand *Smart Lubrication*™ solutions:

- **Greases** with special additives to resist water washout, evaporation or oxidation
- **Silicone compounds** for light-load lubricating and sealing in extreme temperatures
- **Anti-seize pastes** with high levels of lubricating solids for heavy loads and slow speeds
- **Anti-friction coatings** for clean dry-film lubrication to control friction, wear and noise
- **Solids and powders** for plastics lubrication and specialized friction-control additives
- **Oils and dispersions** with performance additives in synthetic or mineral blends

## Innovate with smart science

Proven, effective MOLYKOTE® brand *Smart Lubrication*™ solutions can help you meet vehicle electrical systems design goals for connected reliability innovation:

### Reduce friction and wear; increase service life

- Alternator and fan clutch bearings
- Actuators and motors
- Engine and emission controls
- Starter motor gears, over-running clutches

### Reduce squeaks, rattles, unwanted noise and vibrations

- Electric parking brake
- Switches, audio and media controls
- Window regulators

### Improve assembly and disassembly

- Spark plug boots, ignition switches
- Threaded fasteners, clips
- Wiring harness connectors





## Smart Lubrication™ selection guide: Electrical systems applications

APPLICATION	DESIGN NEED	POTENTIAL SOLUTION(S)	PRODUCT HIGHLIGHTS
Actuators, motors	Reduced friction, wear and noise	MOLYKOTE® YM-102 Grease	Synthetic PAO grease offers low seepage for lubricating plastic components
		MOLYKOTE® EM-50L Grease	Synthetic grease with good noise-damping properties
Alternator, fan clutch bearings	Provide long-term lubrication with reduced friction, wear and noise	MOLYKOTE® FS-841 Grease	Low-consistency fluorosilicone grease for solvent-resistant, high-speed lubrication
		MOLYKOTE® G-5025 Grease	Silicone grease for extended durability in over-running clutches
Diesel engine glow plug controllers	Improved water and corrosion resistance	MOLYKOTE® 4 Electrical Insulating Compound	Greaselike silicone with good dielectric strength, water repellency, oxidation resistance
Electric parking brake	Long-term lubrication with improved performance	MOLYKOTE® E Paste	Synthetic paste with several types of special solid lubricants
		MOLYKOTE® D-708 Anti-Friction Coating	Heat-cured, PTFE-based AFC with excellent corrosion protection
Electronic transmission actuator	Reduced friction and corrosion potential	MOLYKOTE® BR-2 Plus High Performance Grease	Mineral-oil-based grease with solid lubricants and extreme-pressure additives
Engine throttle, emission controls	Reduce friction and wear	MOLYKOTE® HP-300 Grease	PFPE grease with excellent heat, fuel and oil resistance
Fasteners, clips	Proper torque, assembly ease	MOLYKOTE® D-96 Anti-Friction Coating	Air-drying, water-based coating provides low coefficient of friction with light loads
Spark plug boots, ignition switches	Improved water resistance	MOLYKOTE® G-5008 Dielectric Grease	Silicone grease designed for rubber and ceramic pairings
Starter motor gears, spline shaft, clutch	Reduced friction, wear and noise	MOLYKOTE® G-1021 Grease	Synthetic-oil-based grease for extremely low startup and running frictional resistance
		MOLYKOTE® D-7409 Anti-Friction Coating	Heat-cured dry-film lubricant with excellent adhesion, corrosion protection and low friction, even at high temperatures
		MOLYKOTE® 33L Extreme Low Temperature Grease	Silicone-based grease with excellent low-temperature resistance
		MOLYKOTE® G-5025 Grease	Silicone grease for extended durability in over-running clutches
Switches, audio and media controls	Enhanced smoothness and reduced noise	MOLYKOTE® E Paste	Synthetic-oil-based paste with solid lubricants and excellent materials compatibility
		MOLYKOTE® EM-30L Grease	Synthetic grease with PTFE or other solids for lubricating plastic components
		MOLYKOTE® G-1057 Grease	Low-bleed synthetic grease with excellent plastics compatibility
Window lift regulators	Reduced friction, wear, vibration and noise	MOLYKOTE® EM-60L Grease	Synthetic grease suitable for low-temperature lubrication of plastics
		MOLYKOTE® 33L Extreme Low Temperature Grease	Silicone-based grease with excellent low-temperature resistance
Wiring/harness connections	Protection from moisture and fretting corrosion	MOLYKOTE® L-8030 Grease	Solid lubricants in fluorinated solvent form quick-drying, nontacky lubricating film
		MOLYKOTE® 111 Compound	Greaselike silicone with excellent water resistance over a wide temperature range

**NOTE:** These are proven, effective MOLYKOTE® brand *Smart Lubrication™* solutions for vehicle electrical systems design. Contact your MOLYKOTE® representative for product options to meet specialized requirements.



## Sustainable design solutions

Enhance your design sustainability with MOLYKOTE® brand *Smart Lubrication*™ solutions from DuPont. To meet key electrical systems design needs, these advanced specialty lubrication technologies can be custom-formulated for specified performance characteristics, regulatory standards and process requirements. Raw materials include base oils such as silicone, mineral or polyalphaolefin (PAO); solid lubricants such as molybdenum disulfide (MoS<sub>2</sub>) and polytetrafluoroethylene (PTFE); thickeners such as lithium; and various performance additives to inhibit rust, resist wear or withstand extreme pressure.

- MOLYKOTE® brand anti-friction coatings (AFCs) provide clean and dry long-term lubrication for starter motors, threaded fasteners and assembly clips.
- MOLYKOTE® brand specialty greases help reduce friction, wear, noise and corrosion on alternators, connectors, window regulators and adjustable-component actuators.

## Smart Lubrication™ solutions for other vehicle systems

In addition to the MOLYKOTE® brand *Smart Lubrication*™ solutions for electrical systems design featured in this selection guide, DuPont also offers proven, effective lubricants for these vehicle systems:

- Chassis and brakes
- Exterior
- Interior
- Powertrain

## MOLYKOTE®

### Learn more: Contact us

To learn more about MOLYKOTE® brand specialty lubricants and proven, effective *Smart Lubrication*™ solutions to drive connected reliability innovation in vehicle electrical systems design, contact your MOLYKOTE® Technical Representative or visit [molykote.com](http://molykote.com).



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