



DOW CORNING

Automotive and Transportation
Solutions



SMART LUBRICATION™ SOLUTIONS FOR VEHICLE POWERTRAIN SYSTEMS

Smart science drives propulsion efficiency innovation



DESIGN FOR INCREASING PROPULSION EFFICIENCY

Meet your critical lubrication requirements for advanced powertrain design with *Molykote*® brand specialty lubricants from Dow Corning, a wholly owned subsidiary of The Dow Chemical Company. 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 increasing propulsion efficiency 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 powertrain systems design goals for propulsion efficiency innovation:

Reduce engine and driveline friction, wear and NVH

- Piston skirts and rings
- Camshafts, tappets
- Dual-mass flywheels (DMFW)
- Transmission actuators
- Constant-velocity joints (CVJs)
- Ball joints, universal joints

Provide lifetime lubrication for difficult-to-access components

- Alternator and fan clutch bearings
- Starter motor gears, over-running clutches
- Actuators

Insulate and protect against moisture

- Glow plug controllers
- Ignition switches, spark plug boots

Reduce squeaks, rattles, unwanted noise and vibrations

- HVAC switches, vents
- Small motors and gears
- Compressors

Ensure proper assembly, nondestructive disassembly

- Assembly fasteners, bolts, screws
- Metal intake/exhaust gaskets



MOLYKOTE®
FROM DOW CORNING



SMART LUBRICATION™ SELECTION GUIDE: POWERTRAIN APPLICATIONS

APPLICATION	DESIGN NEED	POTENTIAL SOLUTION(S)	PRODUCT HIGHLIGHTS
Alternator, Fan Clutch Bearings	Provide lifetime lubrication with reduced friction, wear and noise	<i>Molykote</i> ® FS-841 Grease	Low-consistency fluorosilicone grease for solvent-resistant, high-speed lubrication
Electric Motor Bearings	Reduced friction, noise and wear	<i>Molykote</i> ® BG-20 Synthetic Bearing Grease	Synthetic grease with extreme-pressure and anti-wear additives for metal-metal lubrication
Dual-Mass Flywheels (DMFW)	Reduced friction with vibration damping	<i>Molykote</i> ® G-3000 Grease	Synthetic grease with high shear resistance and good temperature stability reduces vibration and noise
Pistons and Rings	Reduced friction for improved energy efficiency	<i>Molykote</i> ® D-10-GBL Anti-Friction Coating	High-viscosity, heat-cured coating for engine components
		<i>Molykote</i> ® D-7409 Anti-Friction Coating	Heat-cured MoS ₂ -based AFC for superior wear resistance
		<i>Molykote</i> ® D-88-GBL Anti-Friction Coating	Heat-cured coating for aluminum pistons and cylinder liners
Camshafts, Tappets, Engine Components	Reduced friction, wear and noise	<i>Molykote</i> ® D-7409 Anti-Friction Coating	Heat-cured MoS ₂ -based AFC for superior wear resistance
Intake/Exhaust Gaskets	Reduced noise and gasket disassembly damage	<i>Molykote</i> ® D-7620 Anti-Friction Coating	Heat-cured MoS ₂ -based AFC designed for roll-coating flat metal components
		<i>Molykote</i> ® D-321 R Anti-Friction Coating	Air-drying bonded lubricant with excellent heat-aging resistance under heavy loads
Starter Motor Gears, Spline Shaft, Clutch	Reduced friction, wear and noise	<i>Molykote</i> ® G-1021 Grease	Synthetic-oil-based grease for extremely low startup and running frictional resistance
		<i>Molykote</i> ® 3400A Anti-Friction Coating	Heat-cured dry-film lubricant with excellent adhesion, corrosion protection and low friction
		<i>Molykote</i> ® 33L Extreme Low Temperature Grease	Silicone-based grease with excellent low-temperature resistance
EGR Valve	Improved fuel, oil and solvent resistance	<i>Molykote</i> ® HP-870 Grease	Solvent-resistant, fluorinated grease with good high-temperature stability and aging
		<i>Molykote</i> ® D-321 R Anti-Friction Coating	Air-drying bonded lubricant with excellent heat-aging resistance under heavy loads
Spark Plug Boots, Ignition Switches	Improved water resistance	<i>Molykote</i> ® G-5008 Dielectric Grease	Silicone grease designed for rubber and ceramic pairings
Glow Plug Controllers	Improved water and corrosion resistance	<i>Dow Corning</i> ® 4 Electrical Insulating Compound	Greaselike silicone with good dielectric strength, water repellency, oxidation resistance
Electronic Transmission Actuator	Reduced friction and corrosion	<i>Molykote</i> ® BR-2 Plus High Performance Grease	Mineral-oil-based grease with solid lubricants and extreme-pressure additives
CV Joints, Universal Joints	Reduced friction and wear	<i>Molykote</i> ® G-4700 Extreme Pressure Synthetic Grease	NLGI GC-LB-certified extreme-pressure grease for heavy loads and vibrations
Engine Bolts, Fasteners	Improved assembly with proper tightening torque	<i>Molykote</i> ® D-321 R Anti-Friction Coating	Air-drying bonded lubricant with excellent heat-aging resistance under heavy loads
		<i>Molykote</i> ® G-n Metal Assembly Paste	Mineral-oil-based paste with solid lubricants for very low coefficient of friction

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



SUSTAINABLE DESIGN SOLUTIONS

Enhance your design sustainability with *Molykote* brand *Smart Lubrication* solutions from Dow Corning. To meet key powertrain 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 (MoS₂) 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 bonded lubrication for pistons and rings to help increase fuel efficiency and reduce emissions.
- *Molykote*® brand lubricants help reduce friction, wear and corrosion on dual-mass flywheels, constant-velocity joints and starter motor gears and over-running clutches.

SMART LUBRICATION SOLUTIONS FOR OTHER VEHICLE SYSTEMS

In addition to the *Molykote* brand *Smart Lubrication* solutions for powertrain systems design featured in this selection guide, Dow Corning also offers proven, effective lubricants for these vehicle systems:

- Chassis and brakes
- Electrical
- Exterior
- Interior

LEARN MORE: CONTACT US

To learn more about *Molykote* brand specialty lubricants and proven, effective *Smart Lubrication* solutions to drive propulsion efficiency innovation in vehicle powertrain systems design, contact your Dow Corning Technical Representative, visit dowcorning.com/auto or send an email via dowcorning.com/ContactUs.

Images: Cover - AV23360, AV26051, AV26076; Page 2 - AV26049, AV23576; Page 3 - AV25781; Page 4 - AV26067

HANDLING PRECAUTIONS

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW CORNING WEBSITE AT DOWCORNING.COM, OR FROM YOUR DOW CORNING SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CORNING CUSTOMER SERVICE.

LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are safe, effective and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Dow Corning's sole warranty is that our products will meet the sales specifications in effect at the time of shipment.

Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, DOW CORNING SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY.

DOW CORNING DISCLAIMS LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Dow is a registered trademark of The Dow Chemical Company.
Dow Corning is a registered trademark of Dow Corning Corporation. The Corning portion of the Dow Corning trademark is a trademark of Corning Incorporated, used under license.
Molykote is a registered trademark of Dow Corning Corporation.
Smart Lubrication and *Smart Science Drives Mobility Innovation* are trademarks of Dow Corning Corporation.
©2017 Dow Corning Corporation, a wholly owned subsidiary of The Dow Chemical Company. All rights reserved.

AGP14829

Form No. 80-8158-01

