



**MOLYKOTE**<sup>®</sup>

FROM DOW CORNING

## **Molykote<sup>®</sup> Industrial Lubricants**



AV07061

**Pastes ● Greases ● Compounds ● Oils ● Coatings ● Dispersions**

# Molykote® Maintenance Products

No matter how harsh the environment or how extreme the temperature, you're sure to find a Molykote® brand lubricant worthy of the challenge.

When you specify maintenance products from Dow Corning, you're specifying the results of more than 60 years of innovations by a world leader in lubrication technology. With dedicated global research and development operations, Molykote brand lubricants from Dow Corning bring you the best in assembly and maintenance technology from around the world. Our knowledgeable sales professionals will help you choose the right lubricating product for your unique maintenance needs.

Dow Corning registers its manufacturing operations to meet the internationally recognized standards of ISO 9001. You can be assured that the products in our assembly and maintenance line are manufactured to provide consistency and exceptionally high quality performance.

For your convenience, these products are readily available through our global distribution network.

With superior product technology, registration to international quality standards, a reputation for consistently high quality and an outstanding on-time shipping record, it's easy to understand why Dow Corning has won so many supplier quality awards.

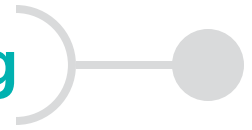
**Select the best.  
Choose Molykote® from Dow Corning.**



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# Molykote® Lubricants from Dow Corning



**Molykote® high-performance lubricants from Dow Corning** help reduce friction and wear, extend lubrication time and reduce maintenance and replacement costs in applications that would defeat conventional oils and greases. Formulated to withstand the rigors of heavy loads, dirty, dusty or chemically harsh environments, temperature and speed extremes, Molykote lubricants are also ideal for normal service lubrication.

To select the best lubricant for your application, let your specific performance needs be your guide:

**Load**  
**Environment**  
**Temperature**  
**Speed**



There are six classes of lubricants from which to choose. Each class has a different physical form with properties that make it suitable for specific applications:

- **Pastes** – Grease-like materials containing a very high percentage of solid lubricants. Used for assembly and lubrication of highly loaded, slow moving parts for threaded fasteners.
- **Greases** – Solid to semisolid materials consisting of a lubricating fluid, thickening agent and additives. Used on rolling element bearings and other moving parts.
- **Compounds** – Grease-like materials composed of silicone fluids and silica fillers. Used for their sealing, dielectric, non-metal-to-metal lubricating and release properties.
- **High-Performance Industrial Lubricating Oils** – Based on hydroprocessed mineral oils or synthetic base stocks such as polyalphaolefin (PAO) and esters, these lubricating fluids are fortified with carefully selected additives to provide optimum performance and service life while maximizing protection of the equipment and machinery they are designed to lubricate.
- **Coatings** – “Lubricating paints”; when applied, these materials cure to form dry, solid lubricant coatings that are bonded to the surface.
- **Dispersions** – Finely divided solid lubricants suspended in lubricating fluids; preferred when it is necessary to apply solid lubricants in liquid form.

## Rolling Element Bearings



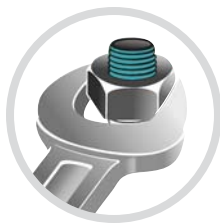
Application	Substrates	Temperature Range [°C]	Other Considerations	Molykote® Solution
Assembly/ Pre-treatment	Metal to metal	-25 to +250	Prevention of fretting corrosion	TP-42
Operation	Metal to metal	-30 to +130	General purpose	Multilub
			General purpose/high loads	BR2 Plus
		-25 to +140	Wet environments/heavy loads	G-0102
		-45 to +180	Synthetic/combinations of high load, temperature high speed (to 600.000 DN)	BG-20
		-40 to +150	Extreme high speeds/long life/low noise	BG-555
		+10 to +160	Water wash-out resistance/low speed	1122
		-30 to +150	"Clean" white/food grade grease in NLGI #0, 1 or 2	G-0050FG, G-0051FG, G-0052FG
		-40 to +150	Multi-purpose synthetic/food grade	G-4500
		-40 to +150	Multi-purpose synthetic/food grade NLGI #1	G-4501
		-40 to +170	Multi-purpose/high temperatures/high speeds	G-0100
		-40 to +177	Synthetic lubrication/moderate to high loads	G-4700
		-73 to +180	Wide temperature range	33 Light, 33 Medium
		-20 to +290	Extreme high temperatures	41
		-40 to +200	High temperatures	44 Light, 44 Medium
		-40 to +200	Solvent resistance/NLGI #1	1292
		-40 to +200	High temperatures/high speeds	G-6000
-40 to +230	Solvent resistance/high load/high temperature/NLGI #2	3451		
		-35 to +250	High temperature/chemical resistant	HP-300, HP-870
Storage protection	Metal components		Corrosion protection/dry film	Metal Protector Plus

## Press Fit Joints



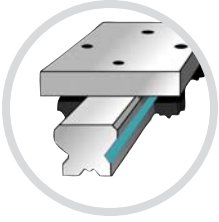
Application	Substrates	Temperature Range [°C]	Other Considerations	Molykote® Solution
Assembly	Metal to metal	-35 to +450	Very low coefficient of friction	G-Rapid Plus
		-25 to +450	Medium coefficient of friction	G-n Plus
		-25 to +250	White product	D
		-30 to +300	White/food grade	P-1900

## Maintenance



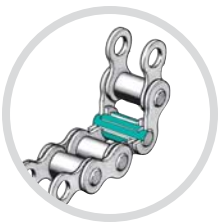
Application	Substrates	Temperature Range [°C]	Other Considerations	Molykote® Solution
Assembly of threaded connections	Metal to metal	-30 to +650	General purpose	1000
		-25 to +250	White product	D
		-30 to +300	White/food grade	P-1900
			Consistent assembly torque	1000
	Aluminum or stainless steel	-40 to +1400	No corroding/extreme temperature/sulphur and metal-free	P-37
Press fitting	Metal to metal	-35 to +450	Very low coefficient of friction	G-Rapid Plus
		-25 to +450	Medium coefficient of friction	G-n Plus
		-25 to +250	White product	D
		-30 to +300	White/food grade	P-1900
Disassembly	Metal to metal	-50 to +50	Loosen rusted parts	Multigliss, Supergliss
Corrosion protection	Metal to metal	-30 to +300	Corrosive environment	Cu-7439 Plus
Storage: Corrosion protection	Metal to metal		Long stocking intervals	Metal Protector Plus
Wet environment	Metal to metal	-30 to +80	Good adhesion	Polygliss N
Contaminated components	Metal to metal		Good cleaning ability	Metal Cleaner
Contamination of electrical components	Metal to metal		Good cleaning ability	S-1002
Oiled machine components	Metal to metal	Depends on oil to which it is added	High loads	A, M-55 Plus
Welding		0 to +100	Release of welding spots on welding tools and metal surfaces	S-1010
Release of moulded components	Metal to plastic	-10 to +250	Non-silicone	S-1011
Sticking of rubber, metal and plastic parts	Metal to plastic to rubber	-40 to +200	Silicone release agent	Separator Spray
Machining aid	Metal to metal	-10 to +120	Drilling and cutting fluid	S-1013
Repair of galvanized surfaces	Metal to metal	-30 to +240	Corrosion protection	L-0500

## Linear Motion Guides



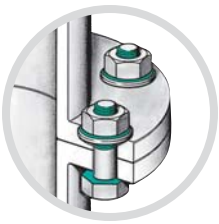
Application	Substrates	Temperature Range [°C]	Other Considerations	Molykote® Solution
Operation	Metal to metal	-25 to +120	General purpose lubricant	Multilub
		-25 to +110	High loads	Longterm 2 Plus
		-40 to +180	High temperatures	BG-20
Pre-treatment		-65 to +175	High wear due to intermittent operation	3402C

## Chain Drives



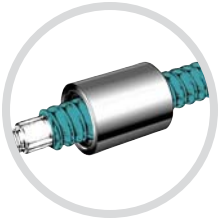
Application	Substrates	Temperature Range [°C]	Other Considerations	Molykote® Solution
Greased chains	Metal to metal	+10 to +160	Water wash-out resistance/high speeds	1122
		-25 to +150	High speeds/good penetration	MKL-N
		-40 to +230	Tacky paste/wide temperature range/ water-resistant	P-40
		-180 to +450	Long-term lubrication	D-321 R
Oiled chains	Metal to metal		High-temperature chains/MoS <sub>2</sub> content	M-30
			Extreme loads/high MoS <sub>2</sub> content	M-55 Plus
		-10 to +200	High temperature/low volatility/no odor	L-1428
		-50 to +120	Wide temperature range/PAO/ food grade/tacky	L-1468FG
		-40 to +250	High temperature chain oils Corrosion protection/dry film	S-15xx Metal Protector Plus

## Threaded Connections



Application	Substrates	Temperature Range [°C]	Other Considerations	Molykote® Solution
Pre-assembly	Metal to metal	-30 to +650	High temperature/no scattering of assembly torque	1000
		-30 to +1100	High temperature/general purposes/ contains no lead or nickel	HSC Plus
		-25 to +250	White product	D
		-30 to +300	White/food grade	P-1900
		-40 to +1500	Very high temperature/compatible to a wide range of high temperature steels	P-74
		Aluminum or stainless steel	-40 to +1400	No corroding/extreme temperature sulfur and metal-free
Disassembly	Metal to metal		Loosen rusted parts	Multigliss
Storage Protection	Metal components		Corrosion protection/dry film	Metal Protector Plus

## Power Screw Drives



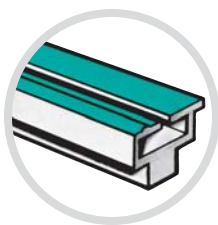
Application	Substrates	Temperature Range [°C]	Other Considerations	Molykote® Solution
Operation	Metal to metal	-30 to +130	General purpose	Multilub
		-30 to +130	General purpose	BR-2 Plus
		-25 to +250	White paste	D
		-40 to +150	Multi-purpose synthetic/food grade	G-4500
		-180 to +450	Dusty environments/extreme pressure	D-321 R
	Plastic to metal/ plastic to plastic	-73 to +180	Wide temperature range/long life	33 Light, 33 Medium
		-40 to +150	Multi-purpose synthetic/food grade	G-4500
Storage Protection	Metal components	-40 to +230	Chemical resistance	3451
			Nonstaining/dry film	Metalform
			Corrosion protection/dry film	Metal Protector Plus

## Control Cables



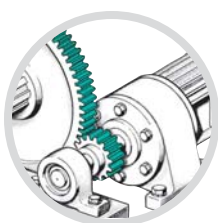
Application	Substrates	Temperature Range [°C]	Other Considerations	Molykote® Solution	
Operation		-40 to +130	General purpose semi-synthetic	PG-75	
		-73 to +180	Wide temperature range/low friction	33 Light, 33 Medium	
		Metal wire/cable too metal liner	-180 to +450	Dusty environments/low friction	D-321 R
			-40 to +150	Multi-purpose synthetic/food grade	G-4500
Storage Protection	Metal components		Corrosion protection/dry film	Metal Protector Plus	

## Slides, Guides & Tracks



Application	Substrates	Temperature Range [°C]	Other Considerations	Molykote® Solution
Operation	Metal to metal	-30 to +150	"Clean" white grease/food grade	G-0052FG
		-25 to +250	"Clean" white paste	D
		-30 to +300	"Clean" white paste/food grade	P-1900
		-30 to +650	High temperatures	1000
		-25 to +450	High loads	G-n Plus
	Plastic to plastic/ metal	-40 to +150	Multi-purpose synthetic/moderate loads/ food grade	G-4500
		-40 to +177	Synthetic lubrication/high loads	G-4700
		-180 to +450	Dusty environments	D-321 R
			Aluminum surfaces/nonstaining	Metalform
			Multi-purpose synthetic/food grade	G-4500
Storage Protection	Metal components	-40 to +150	Multi-purpose synthetic/food grade/ NLGI #1	G-4501
		-73 to +180	Wide temperature range/long life	33 Light, 33 Medium
			Corrosion protection/dry film	Metal Protector Plus

## Gears



Application	Substrates	Temperature Range [°C]	Other Considerations	Molykote® Solution
Pretreatment	Metal to metal	-25 to +450	Run-in lubricant	G-Rapid Plus
Operation	Metal to metal	-40 to +150	Multi-purpose synthetic/food grade	G-4500
		-40 to +177	Synthetic lubrication/high loads	G-4700
		+10 to +160	Tacky grease	1122
		-40 to +230	Tacky paste/wide temperature range/ water-resistant	P-40
		-180 to +450	Dusty environments	D-321 R
	Metal to plastic/ plastic to plastic	-70 to +250	Heat-cure bonded	106
		-40 to +130	Multi-purpose semi-synthetic	PG-75
		-50 to +140	Multi-purpose synthetic	G-2003
		-45 to +130	Multi-purpose synthetic/high loads/ fiber reinforced	EM-30L
		-45 to +150	Multi-purpose synthetic/high loads/ good adhesion	YM-103
In Gear Boxes	Metal to metal	-73 to +180	Wide temperature range/low friction	33 Light, 33 Medium
		-35 to +250	Very high temperatures/very good compatibility/resistant to chemicals	HP-870
			Extreme loads/reduce energy	M-55 Plus
			Heavily loaded, slow speed/ AW/EP additives	L-21xx
			Excellent AW properties/bronze friendly	L-11xx
Storage Protection	Metal components		Synthetic/food grade	L-11xxFG
			Mineral oil/food grade	L-01xxFG
			Corrosion protection/dry film	Metal Protector Plus

## Plain Bearings, Bushings & Sleeves



Application	Substrates	Temperature Range [°C]	Other Considerations	Molykote® Solution	
Pretreatment	Metal to metal	-25 to +450	Run-in lubricant	G-Rapid Plus	
		-25 to +250	"Clean" run-in lubricant	D-321 R	
		-70 to +200	Solventless run-in coating	7400	
		-180 to +450	Dusty environments	D-321 R	
Operation	Metal to metal	-30 to +130	General purpose	BR-2 Plus	
		-45 to +180	General purpose synthetic	BG-20	
		-30 to +150	"Clean" white grease/food grade	G-0052FG	
		-40 to +230	Tacky paste/wide temperature range/water-resistant	P-40	
		-25 to +250	"Clean" white paste/food grade	P-1900	
		-25 to +250	Prevention of fretting corrosion	TP-42	
		-40 to +150	Multi-purpose synthetic/food grade	G-4500	
		-40 to +177	Synthetic lubrication/high loads	G-4700	
		-40 to +230	Chemical/solvent resistance	3451	
		Plastic/rubber applications	-40 to +130	Multi-purpose semi-synthetic	PG-75
			-50 to +140	Multi-purpose synthetic	G-2003
			-45 to +130	Multi-purpose synthetic/high loads/fiber reinforced	EM-30L
	-45 to +150		Multi-purpose synthetic/high loads/good adhesion	YM-103	
			-73 to +180	Wide temperature range	33 Light, 33 Medium
			-40 to +230	Solvent resistance	3451
			-40 to +200	Wash-out resistance/low speeds	111 Compound
-35 to +250			Very high temperatures/very good compatibility/resistant to chemicals	HP-870	
Storage Protection	Metal components		Corrosion protection/dry film	Metal Protector Plus	

# Pastes

Molykote® pastes consist of a high concentration of solid lubricants dispersed in oil for convenient application. In cases where oils and greases are squeezed out of the lubricating contact, solid lubricants form tenacious adhering films, which prevent damages under extreme loads and low speeds. Major applications are initial assembly and running-in.



AV08724

## Molykote® 1000

- **Description** – Solid lubricant paste for bolted metal joints; Contains no lead or nickel.
- **Applications** – Suitable for bolted connections that are subjected to high temperatures up to 650°C and to corrosive impacts, and which, after assembling and the initial operation, have to be re-tightened or disconnected. In order to ensure constant pre-tensioning forces, uniform and steady coefficients of friction of the lubricant are necessary. Used successfully for cylinder head bolts, nozzle head screws of plastic injection molding machines, bolted connections in the chemical industry and also for the tension rings of centrifuges.
- **Features** – Can be used over a wide range of temperature; High load-carrying capacity; Enables non-destructive dismantling, even after long use at high temperatures; Coefficient of friction unchanged in the area of oiled bolts, even after several bolt re-tightening and loosening processes; Good corrosion protection.
- **Composition** – Solid lubricants; Mineral oil; Thickener; Powdered metal.
- **Temperature Range** – From -30 to +650°C
- **Packages** – Aerosol: 400ml; Tube: 100g; Cans: 250g, 1kg; Pail: 25kg; Drum: 180kg

## Molykote® HSC Plus

- **Description** – Solid lubricant paste; Contains no lead or nickel.
- **Applications** – Used for metal/metal combinations that are subjected to high temperatures and frictional contacts, typically for bolted joints. Suitable for lubrication points with low speeds, subjected to high temperatures and corrosive effects and also require a low and constant coefficient of friction. Applied as a contact lubricant for electrically conducting components. Used successfully for stud bolts of gas and steam turbines, stud bolts of turbochargers of diesel engines, flanged connections in chemical and petrochemical plants.
- **Features** – Can be used over a wide range of temperature; Enables non-destructive dismantling, even after long use at high temperatures; High load-carrying capacity; Due to stated coefficient of friction, defined pre-tensioning forces for bolted joints can be achieved; Good corrosion protection; Good electrical conductivity.
- **Composition** – Mineral oil; Thickening agents; Solid lubricants; Metal powder (lead free).
- **Temperature Range** – From -30 to +1100°C
- **Packages** – Aerosol: 400ml; Tube: 100g; Cans: 250g, 1kg; Pail: 5kg

## Molykote® P-37

- **Description** – Extremely pure, solid lubricant paste for bolted joints. It contains no lead, nickel, sulphur, chlorine or fluorine.
- **Applications** – Suitable for screws, nuts and bolts that are subjected to extremely high temperatures and which are made of heat-resistant or extremely heat-resistant steels, e.g. those made from nickel-based alloys. Used successfully for the bolted joints of gas and steam turbines and in power stations.
- **Features** – Highly pure (less than 500mg of sulphur, less than 200mg of chlorine and fluorine per kg of lubricant); Can be used at temperatures up to +1400°C; Coefficient of friction in the range of oiled bolts; Low scatter of pre-stressing forces on tightening; Avoidance of stress cracks and solder brittleness; Enables non-destructive loosening of bolted joints even after long use at high temperatures.
- **Composition** – Solid lubricants in practically sulphur free, partly synthetic oil; Thickener; Adhesion improver.
- **Temperature Range** – From -40 to +1400°C
- **Packages** – Cans: 500g, 1kg; Pail: 25kg

## Molykote® P-74

- **Description** – Solid lubricant paste used in the assembly and fitting of a wide range of components such as metal threaded connections.
- **Applications** – Suitable for a wide range of applications in the chemical, petrochemical, paper and automotive industry, and in engineering, wood and plastic processing; Used on bolted connections, sliding contact bearings, linear sliding guides, splined shafts, press-fit joints, exhaust bolts, spark plug threads, flanges and flange seals, door hinges, brake mechanisms and plate springs.
- **Features** – Metal-free; Good corrosion protection; High load-carrying capacity; Coefficient of friction is of the same order as for oiled bolts; Low scattering of pre-tensioning force; Prevention of stress cracking and brittleness; Wide service temperature range.
- **Composition** – Solid lubricants; Synthetic oil; Thickener; Adhesion promoter.
- **Temperature Range** – From -40 to +200°C as a paste, up to +1500°C as a dry lubricant
- **Packages** – Cans: 500g, 1kg; Pail: 25kg

## Molykote® P-1600

- **Description** – General purpose lubricating paste which provides excellent lubricity and corrosion protection for various assembly jobs.
- **Applications** – Assembly and threaded connections, mounting of bearings, machine beds, assembly of splined shafts, flange sealing and threaded connections at elevated temperatures.
- **Features** – High load-carrying capacity; Low friction; Good anti-wear performance; Excellent corrosion protection; Good temperature performance; Easy to apply.
- **Composition** – Mineral oil; Thickener; Solid lubricants.
- **Temperature Range** – From -20 to +130°C as a paste, up to +1100°C as a dry solid lubricant
- **Packages** – Cans: 500g, 1kg; Pails: 5kg, 25kg

## Assembly Pastes

### Molykote® D

- **Description** – Light-colored, solid lubricant paste for assembly and running-in of metal components.
- **Applications** – Sliding surfaces and frictional contacts exposed to heavy loads, requiring “clean” lubrication, particularly at low speeds, and as a running-in lubricant; Used successfully, for example, on many frictional contacts of electrical and domestic appliances, packaging and office machinery, precision instruments, machinery in foodstuffs and beverages industry, as well as in textile and plastics processing machinery; Wherever thin-film lubrication is impossible, the white multi-purpose grease paste – *Molykote® DX Paste* – is recommended. This can also be applied with a brush or rag, and may even be applied with a grease gun.
- **Features** – High load-carrying capacity; Prevents stick-slip and seizure; Good corrosion protection; Excellent protection against galling and fretting corrosion; Cleanliness.
- **Composition** – Mineral oil; Thickener; Solid lubricants.
- **Temperature Range** – From -25 to +250°C
- **Packages** – Aerosol: 400ml; Tube: 50g; Can: 1kg; Pails: 5kg, 25kg

## Molykote® G-n Plus

- **Description** – Solid lubricant paste for the assembly and running-in of metal components.
- **Applications** – Press-fit production of all types of machine elements, as a running-in lubricant for new machines and gear-boxes; Permanent lubrication of machine elements that are moved only rarely or slightly and also for drilling, sawing and thread cutting; Used successfully for lubricating threaded spindles, splined shafts, toothed gears, worm and transmission gears, screws, valves, pumps, machine-tool guides and also for the tightening and fitting of roller bearings, washers, wheels, flanges and bolts.
- **Features** – High load-carrying capacity; Low coefficient of friction; Prevents frictional corrosion and scoring; Protection from stick-slip; Good anti-corrosion properties; Reduces formation of fretting corrosion; Simplifies dismantling processes.
- **Composition** – Mineral oil; Thickener; Solid lubricants.
- **Temperature Range** – From -25 to +450°C
- **Packages** – Tube: 100g; Cans: 250g, 500g, 1kg; Pails: 5kg, 25kg

## Molykote® G-Rapid Plus

- **Description** – Solid lubricating paste with particularly low friction coefficient for assembly and running-in of metal components.
- **Applications** – Suitable for the press-fit production of all types of machine elements, as a running-in lubricant for new machines and gears, as permanent lubrication of machine elements which are submitted to slight or intermittent movement only, as well as for drilling, sawing and thread-cutting; Used to lubricate threaded spindles, splined shafts, tooth gearing, worm gearing, moving screws, fittings, pumps, guides on machine tools, as well as for fitting of ball and roller bearings, pulleys, wheel flanges and bolts.
- **Features** – Low friction coefficient; High load-carrying capacity; Prevents seizure and scoring; Suppresses stick-slip; Reduces formation of fretting corrosion; Provides emergency running performance.
- **Composition** – Mineral oil; Solid lubricants.
- **Temperature Range** – From -35 to +450°C
- **Packages** – Aerosol: 400ml; Tube: 50g; Cans: 250g, 1kg; Pails: 5kg, 25kg

## Molykote® M-77

- **Description** – Solid lubricant paste with silicone carrier oil.
- **Applications** – Suitable for lubrication points with low to moderate loads and low speeds, which are subjected to water and extreme temperatures. At temperatures above 230°C, the carrier volatilizes leaving virtually no residue, and the remaining dry sliding film itself takes over the lubrication up to +450°C; Suitable for lubricating parts consisting of materials that are not resistant to mineral oils; This product is used successfully on metal/metal combinations with frictional and contact surfaces, brake anchor plates and the brake pistons of disc brakes.
- **Features** – Good water resistance; Good volatilization properties; Compatible with many types of elastomers and plastics.
- **Composition** – Silicone oil; Lithium soap; Solid lubricants.
- **Temperature Range** – From -45 to +230°C as a paste, up to +450°C as a dry solid lubricant
- **Packages** – Can: 1kg

## Molykote® U-n

- **Description** – Solid lubricant paste with synthetic carrier oil.
- **Applications** – For assembling, running-in and permanent lubrication of components that are subjected to high temperatures; Suitable for the dry lubrication of bearings (low rotary speeds), slideways and joints that are subjected to temperatures exceeding 200°C. At higher temperatures the carrier volatilizes leaving virtually no residue, and the remaining dry, anti-friction film alone takes over the only lubrication up to +450°C – even beyond this in a protective gas atmosphere; As the paste has a synthetic oil base, it is also suitable for lubricating construction elements that consist of materials that are not resistant to mineral oils.
- **Features** – Dry lubrication up to +450°C; Reduced friction and wear; Low coefficient of friction; High load-carrying capacity; Compatible with some types of natural rubber and plastics (test for compatibility required before use).
- **Composition** – Polyalkylene glycol oil; Lithium soap; Solid lubricants.
- **Temperature Range** – From -40 to +450°C, up to +630°C with restricted air access
- **Packages** – Tube: 50g; Can: 1kg; Pail: 25kg

### Molykote® Cu-7439 Plus

- **Description** – Copper paste for components subjected to high temperatures, high pressures and corrosive influences.
- **Applications** – Well suited for all areas which need to be protected against water, steam and corrosion, e.g. brake mechanisms, flange seals, exhaustor bolts.
- **Features** – Wide service temperature range; Good pressure resistance; Very adhesive and resistant against water wash-out; Good corrosion protection; Low evaporation; No drop point.
- **Composition** – Partly synthetic oil; Powdered copper; Inhibitor.
- **Temperature Range** – From -30 to +300°C as a paste, up to +650°C as a dry solid lubricant
- **Packages** – Aerosol: 400ml; Tube: 100g; Cans: 500g, 1kg; Pails: 5kg, 25kg

### Molykote® DX

- **Description** – Light-colored grease paste with solid lubricants for assembly and long-term lubrication of metal components.
- **Applications** – Sliding surfaces and frictional contacts exposed to heavy loads, requiring “clean” lubrication, especially at low to medium speeds; Used successfully, for example, on many frictional contacts of electrical and domestic appliances, packaging and office machinery, precision instruments, machinery in foodstuffs and beverages industry, as well as in textile and plastics processing machinery.
- **Features** – High load-carrying capacity; Good water and water wash-out resistance; Prevents stick-slip and seizure; Good corrosion protection; Excellent protection against galling; Cleanliness.
- **Composition** – Mineral oil; Lithium soap; Solid lubricants; Corrosion inhibitor.
- **Temperature Range** – From -25 to +125°C
- **Packages** – Tube: 50g; Cans: 250g, 1kg; Pail: 5kg; Drum: 50kg



## Molykote® E

- **Description** – Light-colored, solid lubricant paste.
- **Applications** – For the long-term and permanent lubrication of metal/plastic and plastic/plastic combinations; Suitable for sliding bearings and sliding surfaces that are subject to high compressive loads made of dry metal/metal and plastic/plastic combinations, and also combinations of metal and oil-resistant rubber. The paste is particularly suitable for components made of fiberglass-reinforced plastic; Used successfully for automatically operated car antennas, vehicle seat adjusters, switches, ski attachments and furniture hinges. Also for sliding bearings, bushes and toothed gears in domestic appliances.
- **Features** – Low coefficient of friction; High load-carrying capacity; Compatible with most plastics; No drop point, hence no melting or leakage from the lubrication point; Effective long-term lubrication, since it is very resistant to oxidation, and has little tendency to volatilize; Good low-temperature properties.
- **Composition** – Polyalphaolefine; Organic thickener; EP additive; Solid lubricants.
- **Temperature Range** – From -50 to +160°C
- **Packages** – Can: 1kg; Pail: 20kg

## Molykote® P-40

- **Description** – Metal-free adhesive lubrication paste which can be used for all assembly and continuous lubricating jobs, particularly those exposed to corrosive environments such as splash water or humidity.
- **Applications** – Assembly and threaded connections, spline shafts, mounting of bearings, Continuous lubrication: for various parts in brake systems, in brake rods, guide bolts. Axles of commercial vehicles, cams and plain bearings; Open gears; Marine applications.
- **Features** – Excellent adhesion; Good corrosion protection; Good water resistance; Good anti-fretting; Assembly and continuous lubrication; Metal-free; Low water pollution class.
- **Composition** – Semi-synthetic oil; Solid lubricants; Corrosion inhibitor.
- **Temperature Range** – From -40 to +230°C as a paste, -40 to +1200°C as a solid lubricant
- **Packages** – Can: 1kg; Pails: 5kg, 25kg

## Molykote® P-1500

- **Description** – White-colored grease paste that combines the benefits of wide operating temperature range with excellent anti-fretting properties.
- **Applications** – Assembly and long-term lubrication of metallic components. Sliding surfaces and frictional contacts exposed to heavy loads, requiring “clean” lubrication, especially at low to medium speeds. Used on frictional contacts of electrical and domestic appliances, packaging and office machinery, precision instruments, in textile and plastics processing machinery and for lubrication of components in the automotive industry.
- **Features** – Wide service temperature range; High load-carrying capacity; Good water resistance and water wash-out resistance; Excellent protection against galling and fretting corrosion; Prevents stick-slip and seizure.
- **Composition** – Semi-synthetic oil; Lithium soap; Solid lubricants.
- **Temperature Range** – From -50 to +160°C
- **Packages** – Can: 1kg; Pails: 5kg, 25kg

## Molykote® P-1900

- **Description** – Light-colored, grease paste with solid lubricants.
- **Applications** – Lubrication of mechanical components in food and beverage processing equipment. Sliding surfaces and frictional contacts exposed to heavy loads, especially at low to medium speeds.
- **Features** – Low coefficient of friction; Good water resistance; High load-carrying capacity; Complies with the listing requirements of the FDA regulation 21 CFR 178.3570 and is registered at NSF under H1 category for “incidental food contact”.
- **Composition** – Mineral oil; Aluminum complex thickener; Solid lubricants.
- **Temperature Range** – From -30 to +300°C
- **Packages** – Cartridge: 400g; Can: 1kg; Pail: 25kg; Drum: 180kg

## Molykote® TP-42

- **Description** – Light-colored adhesive grease paste with solid lubricants for metal friction combinations.
- **Applications** – Sliding surfaces exposed to high pressure loads and subject to the influence of water of metal machining emulsions; Recommended and successfully used by leading clamping-element manufacturers, especially for chucks on metal processing machines.
- **Features** – High load-carrying capacity; Particularly adhesive; Particularly resistant to wash-out by water and metal machining emulsions; Prevents stick-slip; Good corrosion protection; Excellent protection against galling.
- **Composition** – Mineral oil; Synthetic oil; Lithium soap; Solid lubricants; Adhesion improver.
- **Temperature Range** – From -25 to +250°C
- **Packages** – Tube: 100g; Cans: 500g, 1kg; Pail: 25kg; Drum: 180kg

## Molykote® X

- **Description** – Solid lubricating grease paste for lubrication of metal friction combinations which have to work under high surface pressures.
- **Applications** – Suitable for heavily-loaded guides and plain bearings, thread spindles, bolts and trunnions, especially at low to average speeds; Used successfully on slideways and sliding shoes for bridge displacement systems.
- **Features** – High load-carrying capacity; Good water and water wash-out resistance; Protection against seizure and premature wear; Excellent corrosion protection.
- **Composition** – Mineral oil; Lithium soap; Solid lubricants; EP additive; Corrosion inhibitor.
- **Temperature Range** – From -30 to +135°C
- **Packages** – Can: 1kg; Pail: 50kg

## Other Pastes

## Molykote® HTP

- **Description** – Solid lubricating paste for hot forming of metals.
- **Applications** – Suitable for the lubrication of tools for hot forming, particularly on hot-flow presses and drop forging, also as a parting agent and slip additive at high temperatures; Used successfully for the hot bending of flat steel St 37 or St 70, the rolling of the ends of vehicle leaf-springs, folding of sheet metal edges, hot rolling of cutters, and drop forging of flywheels made from St 37, as well as for the lubrication of separator plates on chipboard presses.
- **Features** – High temperature resistance (up to +1150°C) as a dry lubricant; Reduces friction and wear; Reduces scoring; Increases service life of tools.
- **Composition** – Mineral oil; Thickener; Solid lubricant.
- **Temperature Range** – From -20 to +1150°C
- **Packages** – Pails: 5kg, 25kg

# Greases

No matter what your industry – Food and Beverage, Chemical, Industrial Assembly – we have the exact products and services to support your business.

A lubricating grease is a semi-solid product of the dispersion of a thickening agent in a liquid lubricant. The lubricating grease operates by releasing the lubricating fluid from the thickening agent and provides a way to supply a lubricant where the use of oil is not practical.

Molykote® high-performance greases are designed and tailored for use under extreme conditions like extreme pressure, harsh chemical environment, low and high temperatures and all speeds. Molykote greases are based on mineral oils or synthetic fluids including silicone oils. A number of Molykote greases contain special additives and/or solid lubricants like Molybdenum disulfide to provide effective lubrication.



AV08721

### Molykote® 1102

- **Description** – For gas taps and cocks with metal, glass and plastic combinations.
- **Applications** – Used successfully with natural gas stop-cocks of main and secondary lines in domestic equipment, instantaneous water heaters and similar equipment; Lubrication of smaller taps made of metal, glass or plastic.
- **Features** – Highly resistant to water; No drop point therefore no melting or leakage from lubrication points.
- **Composition** – Mineral oil; Inorganic thickener; Solid lubricants.
- **Temperature Range** – From 0 to +160°C, short term +220°C
- **Packages** – Tube: 50g; Can: 1kg; Pail: 25kg

### Molykote® 1122

- **Description** – Synthetic grease with solid lubricants.
- **Applications** – Used for initial lubrication of chains with hollow pins equipped with grease nipples, e.g. high tender clamp chains in the textile industry and conveyor chains in food sterilizer units; Also used for gear drives and open gears, sliding bearings operating at low speeds and high temperatures, such as bearings in drying systems and calendaring machines used in various industrial processes.
- **Features** – Emergency lubrication; High-pressure resistance; High wear protection; Extremely adhesive; Resistance against water.
- **Composition** – Synthetic oil; Solid lubricants; Inorganic thickener; Adhesion improver.
- **Temperature Range** – From +10 to +160°C
- **Packages** – Aerosol: 400ml; Pail: 25kg; Drum: 49,8kg

### Molykote® 165 LT

- **Description** – Gearwheel grease for the lubrication of highly stressed open gears and reducing gears made of metal, with a peripheral speed of up to 2.5 m/s.
- **Applications** – Open gears that are subjected to high stresses and bad weather effects; Successfully used in crushing plants and in transmission gears and threaded spindles of heavy, crank-driven presses.
- **Features** – Extremely high load-carrying capacity; Wear protection and reduction of existing pitting in gear teeth flanks during operation, due to the solid lubricants incorporated in the grease; Extremely adhesive due to build-in adhesion improver; Good protection against corrosion; Contains no lead or nickel.
- **Composition** – Mineral oil; Lithium soap; Solid lubricants; Corrosion inhibitor; Adhesion improver; EP additives.
- **Temperature Range** – From -25 to +120°C
- **Packages** – Can: 1kg; Pail: 5kg

## Molykote® BR2 Plus

- **Description** – High-performance grease with solid lubricants for metal/metal combinations involving slow to fast movements, particularly with medium to high loads.
- **Applications** – Used successfully on roller bearings, plain bearings, sliding guides, roller guides, ball-and-socket joints, splined shafts and threaded spindles.
- **Features** – High load-carrying capacity; Suitable for long-term lubrication; Good oxidation resistance; Emergency running properties, i.e. in the case of mixed friction providing of wear protection by solid lubricants and EP additives; Good protection against scaring (false Brinelling); Good water wash-out resistance; Good corrosion protection; Good protection against fretting corrosion.
- **Composition** – Mineral oil; Lithium soap; Solid lubricants; EP additive; Corrosion inhibitor.
- **Temperature Range** – From -30 to +130°C, +150°C for short periods
- **Packages** – Tube: 100g; Cartridge: 400g; Can: 1kg; Pails: 5kg, 25kg, 50kg; Drum: 180kg

## Molykote® FB 180

- **Description** – High-performance grease for metal/metal combinations involving slow to medium-fast movements and light to heavy loads, particularly at high temperatures.
- **Applications** – Suitable for lubrication points with light to heavy loads and low to medium speeds, particularly those exposed to continuous high temperatures; Used successfully on plain and roller bearings of conveyor installations in drying kilns, vulcanizing plants, heating installations, fans and electric motors.
- **Features** – Contains no lead or nickel; Suitable for long-term lubrication due to low evaporation and low tendency towards oxidation; Emergency running properties and reduction virtue of incorporated solid lubricants; No drop point: consequently no melting or lubrication point; Good water wash-out resistance.
- **Composition** – Mineral oil; Inorganic thickener; Corrosion inhibitor; Solid lubricants.
- **Temperature Range** – From -30 to +160°C, +180°C for short periods
- **Packages** – Can: 1kg; Pail: 25kg

## Molykote® G-0050FG

- **Description** – Multi-purpose food grade grease. White bearing grease is a high-performance lubricant designed for the food and beverage industry. It is a mineral based lubricant thickened with aluminum complex and fortified with EP additives. They are an excellent choice where NSF H1 status lubricant is required or when the product must be free of black particle contamination.
- **Applications** – Multi-purpose lubrication of mechanical components in food and beverage processing facilities and pharmaceutical plants.
- **Features** – Excellent lubricating properties; Good resistance against water wash-out; High load-carrying capacity; Compatible with many elastomers and plastics; Complies with the listing requirements of the FDA regulation 21 CFR 178.3570 and is registered at NSF under H1 category for “incidental food contact”.
- **Composition** – Mineral oil; Aluminum complex thickener; EP/AW additives.
- **Temperature Range** – From -20 to +150°C
- **Packages** – Cartridge: 380g; Pail: 25kg

## Molykote® G-0051FG

- **Description** – Multi-purpose food grade grease. White bearing grease is a high-performance lubricant designed for the food and beverage industry. It is a mineral based lubricant thickened with aluminum complex and fortified with EP additives. They are an excellent choice where NSF H1 status lubricant is required or when the product must be free of black particle contamination.
- **Applications** – Multi-purpose lubrication of mechanical components in food and beverage processing facilities and pharmaceutical plants.
- **Features** – Excellent lubricating properties; Good resistance to water wash-out; High load-carrying capacity; Compatible to many elastomers and plastics; Complies with the listing requirements of the FDA regulation 21 CFR 178.3570 and is registered at NSF under H1 category for “incidental food contact”.
- **Composition** – Mineral oil; Aluminum complex thickener; EP/AW additives.
- **Temperature Range** – From -20 to +150°C
- **Packages** – Cartridge: 380g; Pail: 25kg

## Molykote® G-0052FG

- **Description** – Multi-purpose food grade grease. White bearing grease is a high-performance lubricant designed for the food and beverage industry. It is a mineral based lubricant thickened with aluminum complex and fortified with EP additives. They are an excellent choice where NSF H1 status lubricant is required or when the product must be free of black particle contamination.
- **Applications** – Multi-purpose lubrication of mechanical components in food and beverage processing facilities and pharmaceutical plants.
- **Features** – Excellent lubricating properties; Good resistance to water wash-out; High load-carrying capacity; Compatible to many elastomers and plastics; Complies with the listing requirements of the FDA regulation 21 CFR 178.3570 and is registered at NSF under H1 category for “incidental food contact”.
- **Composition** – Mineral oil; Aluminum complex thickener; EP/AW additives.
- **Temperature Range** – From -20 to +150°C
- **Packages** – Cartridge: 380g; Pails: 5kg, 25kg

## Molykote® G-0100

- **Description** – Multi-purpose Polyurea thickened bearing grease.
- **Applications** – Electric motors; Fan bearings; Water pump bearings; Dryers in chemical and paper industries.
- **Features** – Wide temperature range; Low noise performance; Excellent corrosion-preventive properties; Variable speed.
- **Composition** – Mineral base oil; Polyurea thickener; Corrosion inhibitor.
- **Temperature Range** – From -40 to +170°C
- **Packages** – Cartridge: 400g; Can: 1kg; Pail: 25kg; Drum: 180kg

## Molykote® G-0101

- **Description** – Long Life Bearing Grease. Mineral oil based grease thickened by a lithium system. This product offers a wide service temperature range.
- **Applications** – Rail applications; Elevator bearings; Electric motor bearings.
- **Features** – Long service life; Excellent heat resistance; Usable for fast moving applications.
- **Composition** – Mineral base oil, Lithium complex thickener; Corrosion inhibitors.
- **Temperature Range** – From -20 to +150°C
- **Packages** – Cartridge: 400g; Can: 1kg; Pail: 25kg; Drum: 180kg

## Molykote® G-0102

- **Description** – Mineral oil based grease thickened by a calcium complex system. It can be used in a wide temperature range and offers excellent resistance against water wash-out. This product provides premium protection against wear and corrosion.
- **Applications** – Water processing; Watergates and sluices; Chemical industries (cooling, condensing); Steel mills and mining Industry.
- **Features** – Excellent water resistance; Extreme pressure capability; Good corrosion-preventive properties; Excellent thermal stability.
- **Composition** – Mineral base oil; Calcium complex thickener; Corrosion inhibitor; EP additives.
- **Temperature Range** – From -25 to +140°C
- **Packages** – Cartridge: 400g; Can: 1kg; Pail: 25kg; Drum: 180kg

## Molykote® G-67

- **Description** – Soft, adhesive extreme pressure solid lubricant grease.
- **Applications** – Spur gear systems, load chains, settling shims, springs, shaft-hub connection, encapsulated joints, gears, linear motion guides.
- **Features** – Excellent protection against fretting corrosion; Good load-carrying capacity; High level of protection against wear; Particularly adhesive.
- **Composition** – Mineral oil; Lithium soap; Adhesion improver; Solid lubricants.
- **Temperature Range** – From -25 to +120°C
- **Packages** – Cartridge: 400g; Can: 1kg; Pail: 50kg; Drum: 180kg

## Molykote® Longterm 00

- **Description** – Fluid grease for the lubrication of highly stressed transmissions with metal gears.
- **Applications** – Closed gears that are subjected to frictional corrosion and moisture
- **Features** – Extremely high load-carrying capacity; Resistant to galling through mixed friction; Wear protection due to solid lubricants and EP additives; Extremely adhesive due to incorporated adhesion improver; Good protection against corrosion; Contains no lead or nickel.
- **Composition** – Mineral oil; Lithium soap; Solid lubricants; Corrosion inhibitor; Adhesion improver; EP additives.
- **Temperature Range** – From -40 to +110°C
- **Packages** – Pails: 5kg, 50kg

## Molykote® Longterm 2/78G

- **Description** – High-performance grease for metal/metal combinations with slow to moderate movements and moderate to high stresses.
- **Applications** – Suitable for frictional contacts with high stresses and low to moderate speeds, which are subject to friction corrosion, groove formation (Brinell effect) and moisture, used successfully for car track-rod linkages, axle rod linkages and cup joints.
- **Features** – High load-bearing capacity; Suitable for long-term lubrication, since little tendency to oxidize; Resistance to galling; Good protection against corrosion; Contains no lead and nickel.
- **Composition** – Mineral oil; Lithium/Zinc soap thickener; Solid lubricants; Oxidation inhibitor; Corrosion inhibitor.
- **Temperature Range** – From -35 to +130°C
- **Packages** – Can: 1kg; Pail: 50kg; Drum: 180kg

## Molykote® Longterm 2 plus

- **Description** – Lubricating grease for metal/metal combinations with slow to medium-fast movements especially with high loads.
- **Applications** – Used successfully for bearings, spline profiles and clutches in highly stressed motor vehicles, tractors, cranes, earth-moving machines, conveyor belts and forklift trucks, also where there is a risk of fretting corrosion, groove formation (Brinell effect) or moisture.
- **Features** – High load-carrying capacity; Suitable for long-term lubrication; In mixed friction it provides wear protection due to solid lubricants and EP additives; Good adhesion strength; Good protection against corrosion.
- **Composition** – Mineral oil; Lithium soap; Solid lubricants; EP additive; Corrosion inhibitor; Adhesion improver.
- **Temperature Range** – From -25 to +110°C, +130°C for short periods
- **Packages** – Cartridge: 400g; Can: 1kg; Pails: 5kg, 25kg, 50kg; Drum: 180kg

## Molykote® Longterm W2

- **Description** – White lubricating grease for metal/metal combinations with slow to fast movements and medium loads.
- **Applications** – Used successfully for bearings in machinery used in the food and pharmaceutical industries, in textile and paper making machines, domestic appliances and mechanical precision instruments.
- **Features** – Good load-carrying capacity; Suitable for long-term lubrication since it has no tendency to oxidize; Wear protection through solid lubricants; Good adhesion strength due to incorporated adhesion improver; Good corrosion protection; Prevents the formation of frictional corrosion.
- **Composition** – Mineral oil; Lithium soap; Solid lubricants; Adhesion improver.
- **Temperature Range** – From -30 to +110°C, +130°C for short periods
- **Packages** – Cartridge: 400g; Can: 1kg; Pails: 5kg, 25kg, 50kg; Drum: 180kg

## Molykote® Multilub

- **Description** – High-performance grease for metal/metal combinations involving slow to fast movements and medium to high loads.
- **Applications** – Lubrication contacts with light to medium loads and low to high speeds, even in the presence of moisture and spray; Used on roller bearings, plain bearings, sliding guides, roller guides, ball-and-socket joints, splined shafts and threaded spindles; Used for chassis lubrication on cranes, forklift trucks and lifting apparatus.
- **Features** – Good load-carrying capacity; Suitable for long-term lubrication by virtue of low oil evaporation; Good water wash-out resistance; Good corrosion protection; Good oxidation resistance; Reduction of wear and scoring.
- **Composition** – Mineral oil; Lithium soap; EP additive; Corrosion inhibitor.
- **Temperature Range** – From -25 to +120°C
- **Packages** – Tube: 100g; Cartridge: 400g; Pails: 1kg, 5kg, 20kg, 50kg; Drum: 180kg

## Molykote® X5-6020

- **Description** – High duty mineral oil grease containing solid lubricants.
- **Applications** – Sliding contact bearings in audio and video recorders, CD players and cameras, gears of household machines, photocopiers and other office machinery.
- **Features** – Good pressure resistance; Good water resistance; Very low coefficient of friction; Compatible with many plastics and elastomers; Well suited for fiber reinforced plastics.
- **Composition** – White oil; Lithium soap; Solid lubricants.
- **Temperature Range** – From -30 to +150°C
- **Packages** – Can: 1kg; Pails: 5kg, 25kg

## Semi-synthetic Greases

### Molykote® G-1001

- **Description** – High-performance low cost grease which combines the high temperature properties of the lithium complex thickener with the low temperature properties of combination of highly refined mineral oil and synthetic hydrocarbon.
- **Applications** – All varieties of rolling element bearings particularly at elevated temperatures.
- **Features** – Good low noise capability; Long service life; Excellent cost-performance ratio.
- **Composition** – Blend of mineral oil and synthetic hydrocarbon; Lithium complex thickener; Corrosion inhibitor.
- **Temperature Range** – From -30 to +130°C
- **Packages** – Cartridge: 400g; Can: 1kg; Pail: 25kg; Drum: 180kg

### Molykote® G-68

- **Description** – Partly synthetic grease for enclosed steel and plastic gears.
- **Applications** – Used in gears of electrical toothbrushes and paper shredders.
- **Features** – High water resistance; Low coefficient of friction; Good compatibility with most plastics.
- **Composition** – Mineral oil; Polyalphaolefine; Lithium soap; EP additives; Solid lubricants.
- **Temperature Range** – From -30 to +140°C
- **Packages** – Pails: 5kg, 25kg; Drum: 180kg

### Molykote® PG-75

- **Description** – Lubricating grease for plastic/plastic and plastic/metal combinations with slow to medium-fast movements and light loads.
- **Applications** – Used on vehicle track-rod joints.
- **Features** – Suitable for long-term lubrication; Good low temperature characteristics; Very low coefficient of friction; Compatible with many plastics and elastomers.
- **Composition** – Mineral oil; Polyalphaolefine; Lithium soap; Solid lubricants.
- **Temperature Range** – From -40 to +130°C
- **Packages** – Can: 1kg; Pails: 5kg, 25kg, 50kg

### Molykote® EM-50L

- **Description** – Synthetic hydrocarbon oil/lithium soap grease. It has excellent compatibility with plastics such as polyacetals and polyamides, and is formulated for enhanced surface adhesion and noise damping.
- **Applications** – Designed for plastic/plastic and plastic/metal lubrication in electromechanical applications such as small gears and moving components in printers, tape recorders and CD players.
- **Features** – Wide service temperature range; Compatible with many plastics; Good lubricity; Formulated for enhanced surface adhesion; Noise damping.
- **Composition** – Polyalphaolefine; Lithium soap.
- **Temperature Range** – From -40 to +150°C
- **Packages** – Can: 1kg; Pail: 16kg

### Molykote® EM-60L

- **Description** – Low temperature synthetic grease containing solid lubricants.
- **Applications** – Auto-focus of video cameras, electrical motors operating at low temperatures.
- **Features** – Extremely low torque at low temperatures; High-pressure resistance; Low coefficient of friction; Compatible with most plastics; Suitable for long-term lubrication.
- **Composition** – Polyalphaolefine; Lithium soap; Solid lubricants.
- **Temperature Range** – From -60 to +130°C
- **Packages** – Can: 1kg; Pail: 15kg

### Molykote® G-2001

- **Description** – Synthetic oil-based grease thickened by a lithium-calcium system. Offers excellent low temperature performance and provides premium protection against wear and corrosion. The absence of solid lubricants makes this product well suited for small to medium sized rolling element bearings at high speeds.
- **Applications** – High speed bearings; Spindles; Fast moving positioners; Moulding cutters; Chemical industry and paper processing.
- **Features** – Wide service temperature range; Usable for high speeds; Excellent low temperature properties; Excellent temperature-consistency profile.
- **Composition** – Synthetic base oil (PAO); Lithium-calcium thickener; Corrosion inhibitors.
- **Temperature Range** – From -50 to +130°C
- **Packages** – Cartridge: 375g; Can: 1kg; Pail: 25kg; Drum: 180kg

## Molykote® G-2003

- **Description** – High-performance lithium thickened grease based on synthetic hydrocarbon. It offers excellent low temperature properties and provides premium long-term lubrication due to special solid lubricants.
- **Applications** – High-performance grease for plastic/metal and plastic/plastic combinations involving medium-fast movements and medium loads.
- **Features** – Excellent low temperature properties; Good water resistance; Suitable for long-term lubrication by virtue of low oil evaporation and low tendency towards oxidation; Compatible with most plastics and elastomers.
- **Composition** – Polyalphaolefine oil; Lithium thickener; Oxidation inhibitors; Solid lubricants.
- **Temperature Range** – From -50 to +140°C
- **Packages** – Pail: 25kg

## Molykote® G-4500

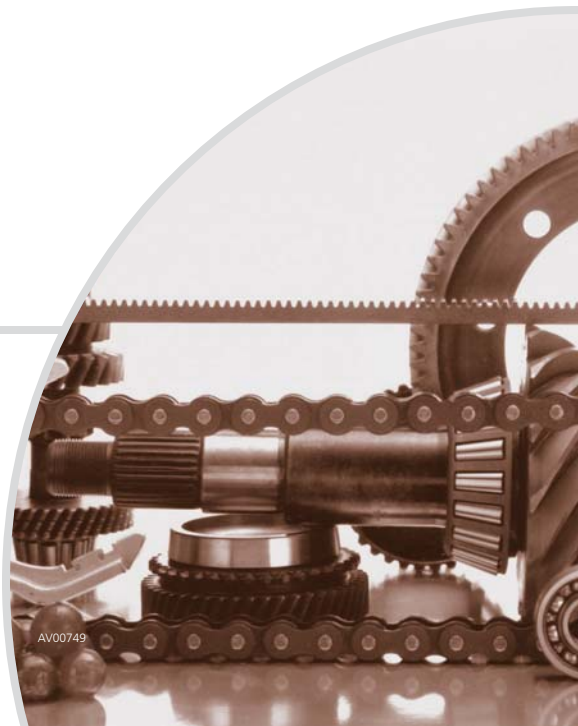
- **Description** – Specialty lubricant that combines the benefits of wide operating temperature and broad compatibility with varied materials.
- **Applications** – Long-term lubrication for assembly and maintenance; Can be used in food-processing applications involving mixers, motors, conveyors, low-temperature equipment, packaging machines and many other applications in or out of the food processing industry where a white grease may be desirable. Such applications may involve furniture, instrumentation, photo and optical equipment.
- **Features** – Multi-purpose capabilities; Wide temperature operating range; Broad compatibility; Complies with the listing requirements of the FDA regulation 21 CFR 178.3570 and is registered at NSF under H1 category for “incidental food contact”.
- **Composition** – Polyalphaolefine; Aluminum complex thickeners; Solid lubricants.
- **Temperature Range** – From -40 to +150°C
- **Packages** – Aerosol: 400ml; Cartridge: 400g; Pails: 5kg, 25kg

## Molykote® G-4501

- **Description** – Specialty lubricant that combines the benefits of wide operating temperature and broad compatibility with varied materials.
- **Applications** – Long-term lubrication for assembly and maintenance; Can be used in food-processing applications involving mixers, motors, conveyors, low-temperature equipment, packaging machines and many other applications in or out of the food processing industry where a white grease may be desirable; Such applications may involve furniture, instrumentation, photo and optical equipment.
- **Features** – Multi-purpose capabilities; Wide temperature operating range; Broad compatibility; Complies with the listing requirements of the FDA regulation 21 CFR 178.3570 and is registered at NSF under H1 category for “incidental food contact”.
- **Composition** – Polyalphaolefine; Aluminum complex thickeners; Solid lubricants.
- **Temperature Range** – From -40 to +150°C
- **Packages** – Cartridge: 400g; Pail: 25kg

## Molykote® G-4700

- **Description** – Specialty lubricant that combines the benefits of wide operating temperature and broad compatibility with varied materials.
- **Applications** – Long-term lubrication for assembly and maintenance; Can be used in most non-food related grease applications such as metal working machines, motors, fans, blowers, conveyors, wheel bearings and custom machinery where heavy duty, long-lasting lubrication is desired.
- **Features** – Multi-purpose capabilities; Wide temperature operating range; Broad compatibility; Meets Cinnccinati Machine P-64, Ford ESA-MIC75-B, GM998525H.
- **Composition** – Polyalphaolefine; Lithium complex thickeners; Solid lubricants.
- **Temperature Range** – From -40 to +177°C
- **Packages** – Cartridge: 400g; Can: 1kg; Pail: 25kg

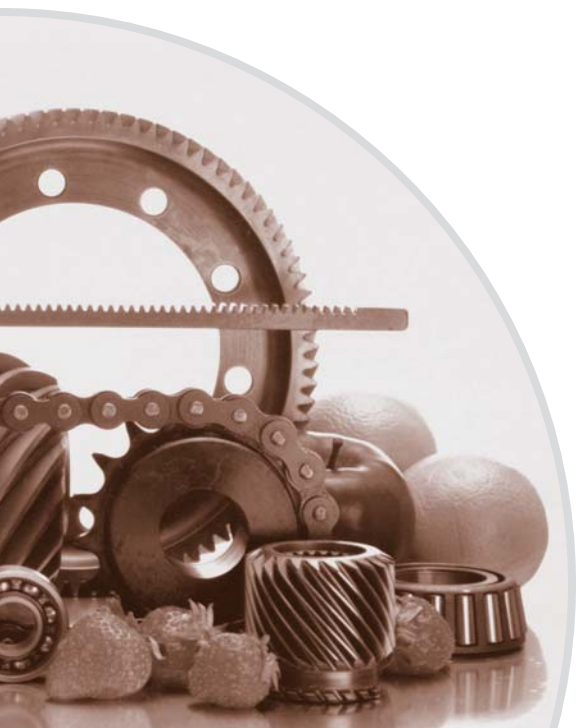


## Molykote® MH-62

- **Description** – Synthetic hydrocarbon oil/lithium soap grease containing specially formulated solid lubricants. It has good compatibility with plastics, a wide service temperature range and a high load-carrying capacity.
- **Applications** – Designed primarily for plastic/plastic, metal/metal, and metal/plastic lubrication in electromechanical applications such as automotive HVAC components and cables; Examples include control cables, precision electric motors, antennas, audio equipment, and bearings under light to moderate loads.
- **Features** – Lubrication of plastic/plastic, metal/metal, and metal/plastic substrates in electromechanical applications such as automotive HVAC components and cables.
- **Composition** – Polyalphaolefine; Lithium soap; Solid lubricants.
- **Temperature Range** – From -40 to +120°C
- **Packages** – Pail: 16kg

## Molykote® EM-30L

- **Description** – High-performance greases for plastic/plastic, plastic/metal and rubber/metal combinations involving slow and medium-fast movements and medium to heavy loads.
- **Applications** – Suitable for lubrication points with medium to heavy loads and low to medium speeds.
- **Features** – Contains no lead or nickel; High load-carrying capacity; Suitable for long-term lubrication by virtue of low oil evaporation and low tendency towards oxidation; Low friction coefficient; Compatible with most plastics and elastomers.
- **Composition** – Polyalphaolefine; Lithium soap; Solid lubricants.
- **Temperature Range** – From -45 to +150°C
- **Packages** – Can: 1kg; Pail: 16kg; Drum: 180kg



## Molykote® PG-65 Plastislip

- **Description** – Synthetic hydrocarbon grease containing specially formulated solid lubricants. It has excellent compatibility with plastics such as PET, HDPE, PTFE, nylon, and PBT, and rubbers such as NBR, PIB, polyurethane, and neoprene. It has a low coefficient of friction and offers good lubricity at high operating speeds.
- **Applications** – Designed primarily for plastic/plastic, plastic/metal, plastic/rubber, and metal/rubber lubrication in electromechanical applications such as bearing bushings, gears, sliding tracks, switches, levers, and hinges; PG-65 Plastislip is particularly effective as a lubricant in Bowden cable control systems, electric motors and gearboxes, automotive sunroof tracks, and automotive HVAC controls.
- **Features** – Compatible with many plastics; Low coefficient of friction; Designed for high-speed applications.
- **Composition** – Synthetic hydrocarbon oil/lithium soap grease.
- **Temperature Range** – From -55 to +130°C
- **Packages** – Can: 1kg; Pails: 5kg, 25kg

## Molykote® YM-102

- **Description** – Synthetic lithium soap-based grease.
- **Applications** – Heavy duty grease for plastic/plastic and plastic/metal pairs at low to moderate speeds and at high loads (e.g. highly stressed plastic gears in cars and in audio-video units).
- **Features** – Broad service temperature range; Good plastic compatibility; High load-carrying capacity; Low coefficient of friction; Free from molybdenum disulphide.
- **Composition** – Polyalphaolefine; Lithium soap; Solid lubricants.
- **Temperature Range** – From -50 to +150°C
- **Packages** – Pail: 16kg

## Molykote® YM-103

- **Description** – High-performance grease for metal/metal, metal/plastic and plastic/plastic combinations, involving slow to fast movements and medium to heavy loads.
- **Applications** – Suitable for frictional contacts involving medium to heavy loads and low to high speeds, particularly those which have to remain fully serviceable at low temperatures; Used successfully on the adjusting gear of rear-view mirrors in cars, in car steering systems and video recorders.
- **Features** – Contains no lead or nickel; Suitable for long-term lubrication by virtue of low tendency towards oxidation; High load-carrying capacity; Good water wash-out resistance; Low-starting torque; Compatible with many plastics and elastomers.
- **Composition** – Polyalphaolefine; Lithium soap; Solid lubricants.
- **Temperature Range** – From -45 to +120°C, +150°C for short periods
- **Packages** – Can: 1kg; Pail: 16kg; Drum: 180kg

### Molykote® 7514

- **Description** – Synthetic grease especially for intermediate transmissions of starter motors.
- **Applications** – Used successfully for needle bearings in planetary gears.
- **Features** – Wide service temperature range; Suitable for long-term lubrication; Good low temperature performance; Good protection against corrosion.
- **Composition** – PAO/Ester base oil; Lithium complex thickener; EP additives; Corrosion inhibitor.
- **Temperature Range** – From -40 to +180°C
- **Packages** – Pails: 25kg, 50kg; Drum: 180kg

### Molykote® BG-20

- **Description** – High-performance grease for metal/metal combinations involving rapid movements and medium to heavy loads.
- **Applications** – Suitable for lubrication points with medium to heavy loads and high to very high speeds, particularly when they are also exposed to high temperatures; Used successfully on clutch release bearings, blower and calender-roller bearings and electric motor bearings.
- **Features** – Contains no lead or nickel; High load-carrying capacity; Suitable for long-term lubrication by virtue of low oil evaporation and low tendency towards oxidation; Wide service temperature range; Suitable for very high rotational speeds (DN-value 750.000).
- **Composition** – Ester oil; Lithium complex thickener; EW/AW-Additive; Oxidation inhibitor.
- **Temperature Range** – From -45 to +180°C, up to +200°C for short periods
- **Packages** – Can: 1kg; Pails: 5kg, 50kg; Drum: 180kg

### Molykote® BG-555

- **Description** – Long performance life; Wide temperature range; Low noise grease.
- **Applications** – Grease is suitable for use in bearings at elevated temperatures for long period.
- **Features** – Wide service temperature range; Low-performance grease; Excellent low temperature properties; Anti-rust properties; Noise suppressing properties.
- **Composition** – Ester oil; Lithium thickener.
- **Temperature Range** – From -40 to +150°C
- **Packages** – Can: 1kg; Pails: 5kg, 25kg

## Synthetic Greases, Fluorosilicone

### Molykote® 1292

- **Description** – Extreme pressure; High temperature fluoro-silicone grease.
- **Applications** – Lubricating grease for metal/metal combinations with slow to medium-fast movements and medium loads over a wide temperature range.
- **Features** – Particularly suitable for long-term lubrication by virtue of its extremely low tendency towards oxidation; High drop point (> 250°C); Consequently reduced risk of melting and run-out from lubrication point; Wide service temperature range; High resistance to water and water wash-out; Resistant to mineral oil, fuels and many chemicals.
- **Composition** – Fluorosilicone oil; Organic thickener.
- **Temperature Range** – From -40 to +200°C, up to +230°C for short periods
- **Packages** – Tube: 100g; Can: 1kg; Pails: 5kg, 25kg

### Molykote® 3451

- **Description** – Heavy duty; Chemically resistant; High temperature fluoro-silicone grease.
- **Applications** – Lubricating grease for metal/metal combinations with slow to medium-fast movements and medium to high loads over a wide temperature range. Particularly suitable in harsh environments found with chemicals, acids and alkalis.
- **Features** – High oxidation resistance; High drop point; Wide service temperature range; High resistance to water and water wash-out; Resistant to most solvents and chemicals.
- **Composition** – Fluorosilicone oil; PTFE thickener.
- **Temperature Range** – From -40 to +230°C
- **Packages** – Tube: 100g, Can: 1kg; Pails: 25kg, 50kg

### Molykote® 3452

- **Description** – Lubricating and sealing grease for metal/metal, metal/plastic and metal/elastomer combinations involving slow movements and heavy loads over very wide temperature ranges, particularly under unfavorable environmental influences.
- **Applications** – Suitable for the above frictional contacts and service conditions; Successfully used on valves, mechanical seals and pumps, ball-and socket-joints, bearings, on loading arms for ships and vacuum contained equipment.
- **Features** – Low evaporation; High oxidation resistance; Wide service temperature range; High resistance to water and water wash-out; Resistant to most solvents and chemicals; Compatible with many plastics and elastomers.
- **Composition** – Fluorosilicone oil; PTFE thickener.
- **Temperature Range** – From -30 to +230°C
- **Packages** – Tube: 100g, Can: 1kg; Pail: 5kg

### Molykote® G-6000

- **Description** – High-performance bearing grease for use at extreme high temperatures. It is synthetic based grease thickened by aromatic diurea. It can be used at extreme high temperatures, also offering excellent low temperature behavior. Due to the diurea thickener it is very stable to mechanical stress. Product is also well suitable for application exposed to radiation.
- **Applications** – Bearings operating at high temperatures; Automobile electrical accessories; Equipment exposed to radiation; Bearings operating under high mechanical stress.
- **Features** – Extreme high temperature properties; Good low temperature behavior; Good corrosion-preventive properties; High mechanical stability.
- **Composition** – Polyurea thickener; Polyphenylether; Corrosion inhibitor.
- **Temperature Range** – From -40 to +200°C
- **Packages** – Cartridge: 400g; Can: 1kg; Pail: 25kg; Drum: 180kg

### Molykote® HP-300

- **Description** – Fully fluorinated grease provides extraordinary performance under extreme conditions.
- **Applications** – Designed for use in wide temperature ranges and/or high-vacuum operations such as semiconductor applications.
- **Features** – Low vapor pressure (base oil); Excellent chemical and solvent resistance; Outstanding high temperature stability; Good compatibility with elastomers and plastics; Low temperature service capability.
- **Composition** – Perfluoropolyether (PFPE) oil; Polytetrafluoroethylene (PTFE) thickener.
- **Temperature Range** – Continuous: from -35 to +250°C, intermittent: from -65 to +280°C
- **Packages** – Cans: 500g, 2kg

### Molykote® HP-870

- **Description** – Lubricating grease for metal/metal and metal/plastic combinations with slow to medium-fast movements and extremely high loads.
- **Applications** – Used successfully, for example, for sliding and roller bearings in refrigeration plants, in pump and fan bearings, and also for charging equipment in the chemical and petrochemical industry.
- **Features** – Suitable for long-term lubrication; High loading capacity; Can be used over a wide temperature range; Highly resistant to water; Resistant to many chemicals; Compatible with many plastics and elastomers.
- **Composition** – Perfluorinated polyether; PTFE thickener; Temperature resistant corrosion inhibitor.
- **Temperature Range** – From -20 to +250°C, up to +280°C for short periods
- **Packages** – Tube: 100g; Can: 1kg; Pails: 10kg, 25kg; Drum: 200kg

### Molykote® 33 Light

- **Description** – Lubricating grease for metal/metal, metal/plastic combinations involving slow to medium-fast movements and light loads, especially over a wide range of temperatures.
- **Applications** – Used successfully for rollers in mobile refrigerating equipment and refrigerating plants, control cables, electric clocks, motors, windscreen wiper motors, vehicle starter motors, photographic and optical equipment, surveying instruments.
- **Features** – High oxidation resistance; Wide service temperature range; Good low temperature performance; Compatible with many plastics; Water-resistant.
- **Composition** – Silicone oil; Lithium soap.
- **Temperature Range** – From -73 to +180°C
- **Packages** – Tube: 100g; Can: 1kg; Pail: 25kg; Drum: 180kg

### Molykote® 33 Medium

- **Description** – Lubricating grease for metal/metal, metal/plastic combinations involving slow to medium-fast movements and light load, especially over a wide range of temperatures.
- **Applications** – Used successfully for rollers in mobile refrigerating equipment and refrigeration plants, control cables, electric clocks, motors, windscreen wiper motors, vehicle starter motors, photographic and optical equipment, surveying instruments.
- **Features** – High oxidation resistance; Wide service temperature range; Good low temperature performance; Compatible with many plastics; Water-resistant.
- **Composition** – Silicone oil; Lithium soap.
- **Temperature Range** – From -73 to +180°C
- **Packages** – Tube: 100g; Can: 1kg; Pails: 25kg, 50kg; Drum: 180kg

### Molykote® 41

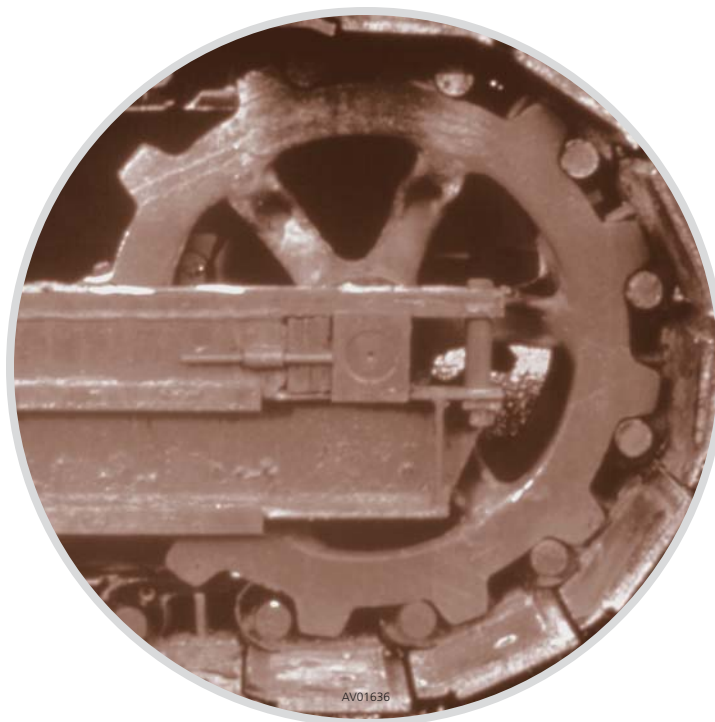
- **Description** – Silicone grease for very high temperature applications at low speeds.
- **Applications** – Suitable for rolling-element bearings in oven conveyors, kiln cars and pumps for molten salts, governor linkage of steam turbines.
- **Features** – Non-melting; High temperature stability; High oxidation resistance; Good resistance against water wash-out.
- **Composition** – Silicone oil; Carbon black; Corrosion inhibitor.
- **Temperature Range** – From -20 to +290°C
- **Packages** – Tube: 100g; Can: 1kg; Pails: 5kg, 25kg

## Molykote® 44 Light

- **Description** – High temperature bearing grease.
- **Applications** – Suitable for rolling-element bearings in oven fans, driers, conveyors, clutch release bearings, plastic components.
- **Features** – Low evaporation; High oxidation resistance; Good resistance to water wash-out; Compatible with many plastics; Wide service temperature range.
- **Composition** – Silicone oil; Lithium soap.
- **Temperature Range** – From -40 to +200°C
- **Packages** – Pails: 5kg, 45kg

## Molykote® 44 Medium

- **Description** – High temperature bearing grease.
- **Applications** – Suitable for rolling-element bearings in oven fans, driers, conveyors, clutch release bearings, plastic components.
- **Features** – Low evaporation; High oxidation resistance; Good resistance to water wash-out; Compatible with many plastics; Wide service temperature range.
- **Composition** – Silicone oil; Lithium soap.
- **Temperature Range** – From -40 to +200°C
- **Packages** – Tube: 100g; Can: 1kg; Pails: 5kg, 25kg; Drum: 180kg



## Molykote® 55 O-Ring

- **Description** – Silicone based grease for O-rings.
- **Applications** – Dynamic lubrication between rubber and metal parts in pneumatic systems in aircraft, automotive and general industrial applications.
- **Features** – High oxidation resistance; Wide service temperature range; Good corrosion protection; Compatible with many plastics and elastomers.
- **Composition** – Silicone oil; Ester; Lithium soap.
- **Temperature Range** – From -65 to +175°C
- **Packages** – Tube: 100g; Can: 1kg; Pail: 25kg

## Molykote® 7348

- **Description** – High temperature silicone grease for rolling-element bearings.
- **Applications** – Used successfully on bearings in driers and on conveyor chains of wood coatings plants. Also suitable for sterilizers.
- **Features** – Low evaporation; High oxidation resistance; Good long-term lubrication; High drop point; Water-resistant.
- **Composition** – Silicone oil; Lithium complex thickener; Anti-oxidant; Solid lubricants.
- **Temperature Range** – From -20 to +230°C, +250°C for short periods
- **Packages** – Cartridge: 400g; Can: 1kg; Pail: 25kg

## Molykote® 822M

- **Description** – High-performance grease for metal/metal, metal/plastic and metal/elastomer combinations.
- **Applications** – Frictional combinations with low stresses and low to moderate speeds which have to function over a wide temperature range in a wet or moist atmosphere. Used successfully for vehicle servo brakes and seal rings in pneumatic and hydraulic systems.
- **Features** – Low evaporation; Wide service temperature range; Good corrosion protection properties; Compatible with many plastics and elastomers.
- **Composition** – Silicone oil; Lithium soap.
- **Temperature Range** – From -40 to +200°C
- **Packages** – Pail : 20kg; Drum: 180kg

## Molykote® G-5032

- **Description** – White food grade silicone grease.
- **Applications** – General purpose white silicone grease for applications in food processing plants where H1 compliant products are requested. Suitable for lubrication points with low to medium loads and speeds which have to perform over a wide temperature range.
- **Features** – Wide service temperature range; Compatible with many plastics and elastomers; Excellent water resistance; Low volatility; Complies with the listing requirements of the FDA regulation 21 CFR 178.3570 and is registered at NSF under H1 category for “incidental food contact.”
- **Composition** – Silicone oil; PTFE.
- **Temperature Range** – From -40 to +200°C
- **Packages** – Pail: 5kg

## Molykote® G-72

- **Description** – Lithium complex soap-based grease for plastic/plastic and plastic/metal combinations in control cable applications.
- **Applications** – Suitable for lubricating control cables, such as clutch cables, gear shift cables, hand brake cables and others.
- **Features** – Plastic lubricity; Compatibility with many plastics; Broad service temperature range; Low temperature characteristics; Low oil evaporation.
- **Composition** – Silicone oil; Lithium complex thickener; Plastic additives.
- **Temperature Range** – From -40 to +200°C
- **Packages** – Pail: 25kg; Drum: 180kg

## Molykote® G-807

- **Description** – Low friction silicone compound. Soft silicone compound containing specially formulated solid lubricants. It has excellent compatibility with plastic and rubber materials. It also has low friction properties.
- **Applications** – Designed primarily for plastic/metal and metal/rubber lubrication in electromechanical applications.
- **Features** – Wide service temperature range; Compatible with many plastic and rubber materials; Good corrosion resistance; Low friction properties.
- **Composition** – Silicone oil; PTFE.
- **Temperature Range** – From -40 to +150°C
- **Packages** – Pails: 18,1kg, 25kg; Drum 199,5kg

## Dow Corning® High Vacuum Grease

- **Description** – Valve lubricant and sealant.
- **Applications** – Lubrication for control and pressure plug valves, water softener and faucet valves; Sealant for vacuum and pressure systems; Sealant for outdoor equipment (also shipboard) subject to washing and harsh environmental exposure: meters, electrical service entrance and underground connections; Chemical barrier coating; Rubber and plastic O-rings, gaskets and seals.
- **Features** – Good resistance to most chemicals; Wide service temperature range; Low vapor pressure; Low volatility; Excellent water resistance.
- **Composition** – Silicone oil; Inorganic thickener; Additives.
- **Temperature Range** – From -40 to +200°C
- **Packages** – Tube: 50g; Pail: 5kg

## Molykote® PG-21

- **Description** – High-performance grease for plastic/plastic and plastic/metal combinations involving slow to medium-fast movements and light to medium loads.
- **Applications** – Suitable for frictional contacts with low to medium loads and speeds which have to remain serviceable through a wide temperature range; Used on control cables, water pumps, bearing bushes, gearwheels, slideways and other plastic parts in domestic appliances, toys and electrical appliances.
- **Features** – High oxidation resistance; Wide service temperature range; High water resistance; Excellent corrosion protection; Compatible with many plastics and elastomers.
- **Composition** – Silicone oil; Lithium complex thickener.
- **Temperature Range** – From -50 to +190°C
- **Packages** – Can: 1kg, Pails: 5kg, 25kg; Drum: 180kg

## Molykote® PG-54

- **Description** – High-performance grease for plastic/plastic, plastic/metal and rubber/metal combinations involving slow to medium fast movements and light to medium loads.
- **Applications** – Suitable for lubrication points with low to medium loads and speeds; Used in silent block bushings, video and audio cassettes, water pump packings, brake-caliper guide bolts, control cables and on sliding-contact surfaces of washing machines and dishwashers.
- **Features** – High oxidation resistance; Wide service temperature range; Good low temperature performance; Low coefficient of friction; Good corrosion protection; Excellent compatibility with most plastics and elastomers.
- **Composition** – Silicone oil, Lithium complex thickener; Solid lubricants; EP additive.
- **Temperature Range** – From -50 to +180°C
- **Packages** – Tube: 100g; Can: 1kg; Pails: 5kg, 25kg; Drum: 180kg

## Compounds

Silicone compounds are grease-like lubricants containing silicone fluids and inert silica fillers. They are resistant to oxidation and thermal degradation while maintaining their properties over a wide temperature range. They are designed as release agents and may be used as O-ring assembly lubricants, non-conductors of electricity, non-curing sealants and as assembly lubricants for plastic and rubber parts. Silicone compounds may be used for applications where they function in a dual role as both lubricant and sealant.



## Molykote® 111 Compound

- **Description** – Valve lubricant and sealant.
- **Applications** – Lubrication for control and pressure plug valves, water softener and faucet valves; Sealant for vacuum and pressure systems; Sealant for outdoor equipment (also shipboard) subject to washing and harsh environmental exposure: meters, electrical service entrance and underground connections; Chemical barrier coating; Rubber and plastic O-rings, gaskets and seals.
- **Features** – Good resistance to most chemicals; Wide service temperature range; Low vapor pressure; Low volatility; Excellent water resistance.
- **Composition** – Silicone oil; Inorganic thickener; Additives.
- **Temperature Range** – From -40 to +200°C
- **Packages** – Tube: 100g; Cartridge: 400g; Can: 1kg; Pails: 5kg, 25kg; Drum: 200kg

## Dow Corning® 4

- **Description** – Grease-like material containing an inert silica filler in combination with selected polydimethyl silicone fluids.
- **Applications** – A moisture-proof seal for aircraft, automotive and marine ignition systems and spark plug connections, disconnection junctions in electrical wiring systems also in electrical assemblies and terminals; Used as a seal in lubricant for cable connectors, battery terminals, rubber door seals, switches and rubber and plastic O-rings and as assembly lubricant for various metal-on-plastic and metal-on-rubber combinations.
- **Features** – High dielectric strength; Moisture-resistant; Good thermal oxidation and chemical stability; Meets MIL-S-8660C; Retains its grease-like consistency from -55°C to +200°C; Odorless; Highly water-repellent.
- **Composition** – Silicone oil; Inorganic thickener.
- **Temperature Range** – From -55 to +200°C
- **Packages** – Tube: 100g; Pails: 5kg, 25kg; Drum: 199,5kg



## Dow Corning® 7

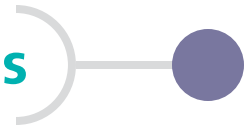
- **Description** – Polydimethylsiloxane polymer.
- **Applications** – Rubber industry: Lubricant and preservative for tight fitting parts: They slide into place quickly and easily, for difficult release jobs, e.g. battery cases. Plastic industry: Release agent for epoxy resins, polystyrenes, PVC, polyesters and other plastic materials. Foundry and smelting industries: Breaking-in of new or freshly cleaned shells, for core molds. Other industries: Release agent for TNT, rocket propellants, ram heads and other parts of extruders, Release agent in forming integral seals for clay tiles.
- **Features** – Heat stable; Withstand molding temperatures up to +200°C; Minimizes build up on molds due to heat stability and resistance to oxidation; Efficient low quantities required; Inert to metals and most plastic and organic materials; Insoluble in water, methanol, ethanol, glycerol, and mineral oil.
- **Composition** – Silicone oil; Inorganic thickener.
- **Temperature Range** – From -40 to +200°C
- **Packages** – Tube: 100g; Pails: 5kg, 25kg

## Dow Corning® 340

- **Description** – Compound provides thermal coupling of electrical/electronic devices to heat sinks.
- **Applications** – Compound is applied to the base and mounting studs of transistors, diodes and silicon-controlled rectifiers. It can also serve as an effective thermal coupler for many heat sink devices where efficient cooling is required. It is also suitable for aircraft engines where heat sink properties are required.
- **Features** – High thermal conductivity; Low bleed; Stable at high temperatures.
- **Composition** – Grease-like silicone fluid thickened with metal oxide filler.
- **Temperature Range** – Resists changes in consistency at temperatures up to +177°C
- **Packages** – Tube: 100g; Pails: 10kg, 60kg



# High-Performance Industrial Lubricating Oils



Molykote® mineral oils are produced in a series of proprietary hydrotreating steps, which ensure that they have a high level of saturates and are nearly free of contaminants.

Molykote synthetic oils are produced through chemical synthesis to meet targeted performance specifications and to minimize impurities. Synthetic oils are formulated with new generation performance-enhancing additives. Synthetic blends are comprised of synthetic and hydrotreated mineral oil base stocks.

All oils in this section are available in 18,9l pails and 208l drums.



## Gearbox Oils

Molykote® gearbox oils help prevent wear and process interruptions in power transmission systems and components. Compared to conventional oils they also offer greater resistance to oxidation and stable performance at high temperatures and under high loads. Molykote gearbox oils maximize oil drain intervals and maintain viscosity characteristics at wide temperature ranges. Molykote gearbox oils meet AGMA 9005-E02. In addition to AGMA, Molykote L-21XX series gearbox oils also meet DIN 51 517 Part 3, US Steel 224, Flender, Cincinnati Machine, David Brown SL.53.101.

## Compressor and Vacuum Pump Oils

Molykote® compressor and pump fluids are formulated to meet or exceed the performance of comparable OEM fill products. These fluids are all compatible with mineral oils and systems designed for mineral oil lubrication.

## Hydraulic Oils and Multi-purpose Oils

Molykote® hydraulic oils minimize formation of emulsions in contact with water due to the purity of the base fluid. They will generally perform successfully in hydraulic systems far longer than conventional hydraulic oils. Plants can gain significant savings from reduced oil consumption, reduced disposal costs, labor savings and fewer interruptions to production. These non-toxic oils are derived from hydrotreated or synthetic base stocks and can be used in systems designed for low pour point or high flash point mineral oils.

Molykote® Multi-purpose oils provide protection and lubrication for a wide range of moving components in industrial systems. They are typically used in smaller volume applications throughout the plant. Depending on the application, your Dow Corning representative can help select the right oil from a range of viscosities, additive packages and pour points.

## Chain Oils

Molykote® chain oils help protect against dirt and frequent attack by moisture and detergents. Unique tackifier additive promotes adherence to metal without thickening oil. As a consequence, the relatively low viscosity of the oils improves penetrating into the chain links.

## Special Purpose Oils

Molykote® special purpose oils have been designed for unique purposes or applications within industrial processes. Depending on the application, your Dow Corning representative can help select the right oil for your special requirements.

Molykote® Process Gas Oils have been specially formulated for use in chemical process gas streams consisting of < 2% oxygen and consisting of harsh corrosive gasses such as HCl, HBr or methyl chloride. These oils will not form sludge or gel in the presence of many harsh gas streams that would destroy conventional vacuum pump or compressor lubricants. A special corrosion inhibitor inhibits acidic corrosion.

**Molykote® Gearbox Oils**

	ISO VG	NSF	Base Oil	Viscosity at 40°C [mm <sup>2</sup> /s]	Viscosity at 100°C [mm <sup>2</sup> /s]	Viscosity Index (ASTM D2270)
L-0115FG Gear Oil	150	H-1	MO	150	15	100
L-0122 Gear Oil	220	H-2	MO	223	20	101
L-0122FG Gear Oil	220	H-1	MO	219	20	101
L-0146FG Gear Oil	460	H-1	MO	441	33	107
L-1115FG Synthetic Gear Oil	150	H-1	PAO	149	17	129
L-1122FG Synthetic Gear Oil	220	H-1	PAO	217	24	127
L-1146FG Synthetic Gear Oil	460	H-1	PAO	460	39	147
L-2110 Synthetic Gear Oil	100	H-2	PAO	107	14	138
L-2115 Synthetic Gear Oil	150	H-2	PAO	149	18	138
L-2122 Synthetic Gear Oil	220	H-2	PAO	224	24	141
L-2132 Synthetic Gear Oil	320	H-2	PAO	320	33	145
L-2146 Synthetic Gear Oil	460	H-2	PAO	444	42	147
L-2168 Synthetic Gear Oil	680	H-2	PAO	667	61	160

**Molykote® Air Compressor Oils**

	ISO VG	NSF	Base Oil	Viscosity at 40°C [mm <sup>2</sup> /s]	Viscosity at 100°C [mm <sup>2</sup> /s]	Viscosity Index (ASTM D2270)
L-1210 Synthetic Compressor Oil	100	H-2	PAO	98	14	145
L-1232 Synthetic Compressor Oil	32	H-2	PAO	30	6	144
L-1232FG Synthetic Compressor Oil	32	H-1	PAO	30	6	138
L-1246 Synthetic Compressor Oil	46	H-2	PAO	44	8	138
L-1246FG Synthetic Compressor Oil	46	H-1	PAO	47	8	138
L-1268 Synthetic Compressor Oil	68	H-2	PAO	62	9	121
L-4611 Synthetic Reciprocating Compressor Oil	100	H-2	DE	98	10	62

**Molykote® Vacuum Pump Oils**

	ISO VG	NSF	Base Oil	Viscosity at 40°C [mm <sup>2</sup> /s]	Viscosity at 100°C [mm <sup>2</sup> /s]	Viscosity Index (ASTM D2270)
L-0610 Vacuum Pump Oil	100	H-2	MO	107	12	100
L-1668FG Synthetic Blend Vacuum Pump Oil	68	H-1	PAO/MO	63	9	113

**Molykote® Ammonia Compressor Oils**

	ISO VG	NSF	Base Oil	Viscosity at 40°C [mm <sup>2</sup> /s]	Viscosity at 100°C [mm <sup>2</sup> /s]	Viscosity Index (ASTM D2270)
L-0660 Para Synthetic Ammonia	68	H-2	MO	69	9	100

Pour Point [°C]	Flash Point [°C]	Fire Point [°C]	Density at 15°C [g/ml]	Water Separability (ASTM D1401)	Corrosion, Copper Strip (ASTM D130)	Rust Prevention (ASTM D665 A, B)	FZG (ASTM D5182)
-18	+260	+277	0.86	40/40/0 (1)	1a	Pass	12+
-18	+265	+288	0.86	40/40/0 (1)	1a	Pass	12+
-21	+254	+266	0.86	40/40/0 (1)	1a	Pass	12+
-18	+302	+327	0.88	40/40/0 (1)	1a	Pass	12+
-48	+266	+293	0.85	40/40/0 (1)	1a	Pass	12+
-39	+260	+288	0.85	40/40/0 (1)	1a	Pass	12+
-36	+285	+313	0.85	40/40/0 (1)	1a	Pass	12+
-50	+270	+301	0.84	40/40/0 (10)	1a	Pass	12+
-43	+279	+304	0.85	40/40/0 (10)	1a	Pass	12+
-40	+279	+307	0.85	40/40/0 (10)	1a	Pass	12+
-37	+281	+311	0.86	40/40/0 (10)	1a	Pass	12+
-35	+285	+313	0.86	40/40/0 (10)	1a	Pass	12+
-32	+288	+338	0.86	40/40/0 (10)	1a	Pass	12+

Pour Point [°C]	Flash Point [°C]	Fire Point [°C]	Density at 15°C [g/ml]	Water Separability (ASTM D1401)	Corrosion, Copper Strip (ASTM D130)	Rust Prevention (ASTM D665 A, B)
-48	+271	+288	0.84	40/40/0 (1)	1a	Pass
-60	+243	+271	0.84	40/40/0 (1)	1a	Pass
-60	+241	+268	0.83	40/40/0 (1)	1a	Pass
-57	+268	+279	0.84	40/40/0 (1)	1a	Pass
-42	+246	+274	0.83	40/40/0 (1)	1a	Pass
-54	+271	+304	0.84	40/40/0 (1)	1a	Pass
-28	+268	+291	0.96	40/40/0 (1)	1a	Pass

Pour Point [°C]	Flash Point [°C]	Fire Point [°C]	Density at 15°C [g/ml]	Water Separability (ASTM D1401)	Corrosion, Copper Strip (ASTM D130)	Rust Prevention (ASTM D665 A, B)
-18	+260	+274	0.87	40/40/0 (1)	1a	Pass
-18	+229	+241	0.86	40/40/0 (1)	1a	Pass

Pour Point [°C]	Flash Point [°C]	Fire Point [°C]	Density at 15°C [g/ml]	Water Separability (ASTM D1401)	Corrosion, Copper Strip (ASTM D130)
-39	+227	+246	0.87	40/40/0 (1)	1b

**Molykote® Hydraulic and Multi-purpose Oils**

	ISO VG	NSF	Base Oil	Viscosity at 40°C [mm <sup>2</sup> /s]	Viscosity at 100°C [mm <sup>2</sup> /s]	Viscosity Index (ASTM D2270)
L-1346FG Synthetic Blend Hydraulic Oil	46	H-1	PAO/MO	45	7	131
L-1368FG Synthetic Blend Hydraulic Oil	68	H-1	PAO/MO	61	9	128
L-0510 Multi-purpose Oil	100	H-1	MO	105	12	103
L-0532FG Multi-purpose Light Oil	32	H-1	MO	31	5	103

**Molykote® Chain Oils**

	ISO VG	NSF	Base Oil	Viscosity at 40°C [mm <sup>2</sup> /s]	Viscosity at 100°C [mm <sup>2</sup> /s]	Viscosity Index (ASTM D2270)
L-1428 High Temperature Chain Oil		H-2	POE	285	24	110
L-1468FG Synthetic Freezer Chain Oil	68	H-1	PAO	66	10	131
L-0460FG Chain Oil	68	H-1	MO	66	8	100
S-1500 General Chain Maintenance Oil	100	H-2	MO/DE	100	11	> 100
S-1501 High Temperature/Low Friction Chain Oil		H-2	POE/DE	125-140	10.5-12.5	
S-1502 High Temperature Synthetic Chain Oil	150	H-2	POE/DE	150	12	
S-1503 High Temperature/Low Friction Chain Oil	220	H-2	POE/DE	220	16	
S-1504 Adhesive Low Friction Chain Oil		H-2	POE/MO	2650-2950	180-220	
CO 220 Synthetic Chain Oil	220	H-2	POE	220		

**Molykote® Special Purpose Oils**

	ISO VG	NSF	Base Oil	Viscosity at 40°C [mm <sup>2</sup> /s]	Viscosity at 100°C [mm <sup>2</sup> /s]	Viscosity Index (ASTM D2270)
L-0268 Process Gas Oil	68	H-2	MO	68	9	102
L-1510 Process Gas Oil	100	H-2	PAO	100	14	138
L-1568 Process Gas Oil	68	H-2	PAO	68	10	140

**Base Oils Reference**

- DE = Diester
- MO = Mineral Oil
- MO/DE = Mineral Oil/Diester
- PAO = Polyalphaolefin
- PAO/MO = Polyalphaolefin/Mineral Oil
- POE = Polyolester
- POE/DE = Polyolester/Diester

Pour Point [°C]	Flash Point [°C]	Fire Point [°C]	Density at 15°C [g/ml]	Water Separability (ASTM D1401)	Corrosion, Copper Strip (ASTM D130)	Rust Prevention (ASTM D665 A, B)
-42	+238	+285	0.83	40/40/0 (1)	1a	Pass
-42	+243	+296	0.84	40/40/0 (1)	1a	Pass
-15	+257	+282	0.87	40/40/0 (1)	1a	Pass
-18	+216	+229	0.86	40/40/0 (1)	1a	Pass

Pour Point [°C]	Flash Point [°C]	Fire Point [°C]	Density at 15°C [g/ml]	Water Separability (ASTM D1401)	Corrosion, Copper Strip (ASTM D130)	Rust Prevention (ASTM D665 A, B)	Temperature Range [°C]
-15	+243	+300	0.94	40/40/0 (1)	1a	Pass	-10 to +200
-54	+271	+296	0.83	40/40/0 (1)	1a	Pass	-50 to +120
-12	+241	+249	0.86	40/40/0 (1)	1a	Pass	-10 to +100
	> +240		0.92				-10 to +200
	> +250		0.98				-25 to +250
	> +250		0.97				-30 to +250
	> +250		0.97				-20 to +250
	> +250		0.86				0 to +250
	> +250		0.94				-10 to +250

Pour Point [°C]	Flash Point [°C]	Fire Point [°C]	Density at 15°C [g/ml]	Water Separability (ASTM D1401)	Corrosion, Copper Strip (ASTM D130)
-33	+216	+243	0.85	40/40/0 (1)	1b
-30	+271	+300	0.84	40/40/0 (1)	1b
-30	+269	+297	0.83	40/40/0 (1)	1b



AV03945

Molykote® Anti-Friction Coatings are paint-like products. They contain, instead of a coloring pigment, submicron sized particles of solid lubricants dispersed through carefully selected resin blends and solvents. Important for the lubricating and corrosion protection properties are the choice of the right raw materials and the volume concentration of the lubricant content. In addition to greases and oils, or where possible, as replacement of those hydrodynamic lubricants, Molykote Anti-Friction Coatings form a lubricating film, which helps cover surface roughness and thus protects against surface to surface friction (e.g. metal to metal, plastic to metal, plastic to plastic) even under extreme loads. They are applied by conventional painting techniques: e.g. spraying, dip spinning or brushing.



## Molykote® 106

- **Description** – Heat-curing dry lubricant.
- **Applications** – For smooth coating of metal/metal combinations; Maintenance-free, permanent lubrication of highly stressed frictional combinations with low speeds or oscillating operation; Used where design construction prevents the use of oil or grease or where the risk of soiling is undesirable; This product is used successfully for the dry lubrication of locks, hinges, joints, magnetic armatures and for the anti-seizure coating of engine and gear components.
- **Features** – Low coefficient of friction; High load-carrying capacity; Good adhesion; Can be painted over.
- **Composition** – Solid lubricants; Organic binder; Solvents.
- **Temperature Range** – From -70 to +250°C
- **Packages** – Pail: 5kg

## Molykote® D-321 R

- **Description** – Air-curing dry lubricant.
- **Applications** – For metal/metal combinations with slow to medium-fast movements and high loads; Suitable for the permanent lubrication of highly stressed sliding guides with low sliding speeds, oscillating movements or intermittent operation; Improving the running-in process and for lubrication under high vacuum and at extreme temperatures; Used successfully for cylinder-head bolts, toaster guides, car mirror adjustment mechanisms, high voltage switches, for the running in of highly stressed gear wheel; Emergency lubricant for parts of the rotor head of wind energy installations and for groove-free cold extrusion of steel.
- **Features** – Air-drying; Avoidance of stick-slip; High ageing resistance.
- **Composition** – Solid lubricants; Inorganic binder; Solvents.
- **Temperature Range** – From -180 to +450°C
- **Packages** – Aerosol: 400ml; Can: 1kg; Pail: 5kg

## Molykote® 3400A Leadfree

- **Description** – Heat-curing dry lubricant.
- **Applications** – Sliding contacts of metal/metal combinations with slow to moderate fast movements and high loads; Used successfully in automotive applications such as: pins, springs and bearings surfaces in brakes, body hinges and linkages; Moving parts in locks, switches, ventilation controls and servo mechanisms; Under the hood linkages exposed to dust, moisture, fuels, oils and other contaminants; Hinge pins, sleeve bearings and cams; Servo mechanism and instrument bearing; Threaded connections and fasteners.
- **Features** – Excellent lubrication; Excellent corrosion protection; Good solvent resistance; High load-carrying capacity; Excellent adhesion to metal; Low coefficient of friction; High resistance to oil and fuels.
- **Composition** – Solid lubricants; Organic binder; Solvents.
- **Temperature Range** – From -200 to +430°C
- **Packages** – Pails: 5kg, 20kg

## Molykote® 3402C

- **Description** – Air-curing dry lubricant.
- **Applications** – Excellent combination of corrosion protection and lubrication; Used on main axle threads of drill hammers, spindles.
- **Features** – Good corrosion protection; Excellent lubricity; Air-curing; High load-carrying capacity and wear resistance.
- **Composition** – Solid lubricants; Corrosion inhibitor; Organic binder; Solvents.
- **Temperature Range** – From -200 to +310°C
- **Packages** – Can: 500g; Pail: 5kg

## Molykote® 7400

- **Description** – Air-curing dry lubricant.
- **Applications** – Sliding contacts of metal/metal combinations with slow to moderate fast movements and high loads, Suitable for improving the running-in of gearboxes, sliding bearings and sliding guides; For running-in car transmission shafts, for the maintenance-free, permanent, non-soiling lubrication of threaded sleeves of car seat adjusting mechanisms, and for the cold working of steel.
- **Features** – Free from flammable solvents; Water-based; Environmentally friendly; High load-carrying capacity; Low coefficient of friction.
- **Composition** – Solid lubricants; Inhibitor; Organic binder; Water; Stabilizers.
- **Temperature Range** – From -70 to +200°C
- **Packages** – Pail: 5kg; Drum: 180kg

## Molykote® 7405

- **Description** – Heat-curing dry lubricant.
- **Applications** – For metal/metal and metal/plastic combinations with slow to moderate fast movements and low to medium loads; Suitable for car door locks, small parts of cameras, cylinder head bolts and self-tapping screws.
- **Features** – Avoidance of stick-slip; Resistant to oil, grease and solvents; Good corrosion protection; Electrically insulating; Low coefficient of friction.
- **Composition** – Solid lubricants; Organic binder; Solvents.
- **Temperature Range** – From -70 to +200°C
- **Packages** – Pail: 5kg

## Molykote® 7409

- **Description** – Heat-curing dry lubricant.
- **Applications** – Sliding contacts of metal/metal combinations with slow to moderate fast movements and moderate to high loads; Suitable for oscillating movements or intermittent operations. For improving the running-in process, for permanent lubrication at high temperatures and also where oils and greases cannot be used; Used successfully for piston rings and tappets of combustion engines, magnetic armatures of vehicle starter motors, parts of vehicle brakes, locks, hinges and pumps, Corrosion protector for hydraulic and pneumatic parts.
- **Features** – Outstanding lubrication, coupled with good corrosion protection properties; Resistant to oil, grease, solvents and many other chemicals; Avoidance of fretting corrosion.
- **Composition** – Solid lubricants; Organic binder; Solvents.
- **Temperature Range** – From -70 to +380°C
- **Packages** – Can: 500g; Pails: 5kg, 25kg

## Molykote® D 10

- **Description** – Heat-curing dry lubricant.
- **Applications** – Sliding contacts of metal/metal combinations with slow to moderate fast movements and moderate to high loads; Suitable for long-term lubrication of sliding contacts also in direct contact with oils and greases; Ideal as a long-term lubricating film on pistons used in gasoline and diesel engines, compressors and piston pumps, pneumatic and hydraulic systems, and other applications that require help to reduce piston and cylinder wall wear during break-in, cold-start, and ongoing operation situations.
- **Features** – Excellent resistance to oils, greases and solvents; Wear resistance; Supplied as a thick liquid suitable for screen-printing application process.
- **Composition** – Solid lubricants; Organic binder; Solvents.
- **Temperature Range** – From -70 to +380°C
- **Packages** – Pails: 5kg, 50kg

## Molykote® D-3484

- **Description** – Heat-curing dry lubricant.
- **Applications** – Sliding contacts of metal/metal combinations with slow to moderate fast movements and moderate to high loads; Used successfully for carburetor springs, lorry-coupling sleeves, toothed gears and parts of car safety belts and car-boot lock parts; Bolts and levers in tractors and construction machines.
- **Features** – Excellent lubricating properties; Fast curing, hence particularly suitable for series production operations; High load-carrying capacity; High abrasion resistance, hence long service life.
- **Composition** – Solid lubricants; Organic binders; Solvents.
- **Temperature Range** – From -70 to +250°C
- **Packages** – Can: 500g; Pails: 5kg, 50kg

## Molykote® D-708

- **Description** – Heat-curing dry lubricant.
- **Applications** – For plastic/metal and metal/metal combinations for low to medium loads; Used on parts for door and locking mechanisms, safety belts, springs, hinges, pins, and washers; Suitable for office machines and precision mechanics; Recommended for lubrication of fasteners.
- **Features** – Outstanding corrosion protection; Good aesthetics; Constant and defined coefficient of friction for threaded connections.
- **Composition** – Solid lubricants; Organic binder; Solvents.
- **Temperature Range** – From -180 to +240°C
- **Packages** – Pail: 18l

## Molykote® D-96

- **Description** – Air-curing dry lubricant.
- **Applications** – Reduces or eliminates noise of plastic parts e.g. in automotive applications such as door panels, arm rests, dashboards, glove boxes, etc., as well as leather equipment.
- **Features** – Excellent “anti-squeak” performance; Low coefficient of friction; Constant coefficient of friction at different temperatures; Water-based; Transparent coating.
- **Composition** – Solid lubricants; Organic binder; Water; Stabilizer.
- **Temperature Range** – From -40 to +80°C
- **Packages** – Pails: 5kg, 25kg

## Molykote® PTFE-N UV

- **Description** – Air-curing dry lubricant.
- **Applications** – Suitable for rubber guides, sliding doors, furniture hinges, small mechanisms in office machines and sunroof seals; For nearly all material combinations such as metal/metal, plastic/metal, plastic/plastic combinations involving slow to medium movements and low loads; The UV indicator enables the end user to readily inspect and confirm, using UV inspection lamps, that the product has been applied to the substrate.
- **Features** – Very low coefficient of friction; Colorless; therefore non-staining; Detectable on the surface.
- **Composition** – PTFE; Binder; Solvents; Ultra-Violet indicator.
- **Temperature Range** – From -180 to +240°C
- **Packages** – Aerosol: 400ml; Pail: 5kg

## Other Coatings

## Molykote® L-0500

- **Description** – Dry film corrosion protection coating.
- **Applications** – Protection of blank metal surfaces, drilling and welding points; Repair of damaged galvanic surfaces; Corrosion protective primer for all types of paints.
- **Features** – Good corrosion protection; Good water resistance; Good adhesion strength.
- **Composition** – Aluminium flakes; Zinc flakes; Binders; Solvents.
- **Temperature Range** – From -30 to +240°C
- **Packages** – Aerosol: 400ml



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## Molykote® Metalform

- **Description** – Transparent wax solution for forming operations of metals.
- **Applications** – Suitable for cold forming of austenitic and ferritic steels, aluminum and its alloys, copper and brass, also as a non-contaminating lubricant in the paper industries and wherever clean lubrication is required; Used successfully for deep-drawing, embossing, stamping, bending, cold extrusion and cold forging of aluminum, for the calibration of metal parts, also for lubricating self-tapping screws, cutting blades, rails, furniture hinges and joints.
- **Features** – Extending tool life; Effective even in very small quantities (thin film lubrication); Particularly effective on high-grade steel and aluminum; Pre-treated components can be handled and dispatched without risk of contamination.
- **Composition** – Synthetic wax; Corrosion inhibitor; Solvents.
- **Temperature Range** – From -60 to +120°C
- **Packages** – Pail: 4,5kg

## Molykote® Metal Protector Plus

- **Description** – Corrosion protection coating.
- **Applications** – Corrosion protection for metal parts which have to be stored or transported.
- **Features** – Long-term corrosion protection; Transparent coating; Low coefficient of friction.
- **Composition** – Synthetic wax; Corrosion inhibitor; Solvents.
- **Packages** – Aerosol: 400ml; Pail: 8kg

## Molykote® S-1010

- **Description** – Anti-spatter spray. Water-based translucent coating which avoids sticking of spots on welding tools and parts.
- **Applications** – Water-based anti-spatter spray version for welding applications.
- **Features** – Water-based; Allows posterior painting of the welded parts; Easy removing by water cleaning.
- **Temperature Range** – From 0 to +100°C
- **Packages** – Aerosol: 400ml

# Solvents

Molykote® Solvents can be used for degreasing operations to remove residues like oil and grease and for modifying the viscosity of Anti-Friction Coatings.

These products are also designed for cleaning equipment after application of the coatings.



## Molykote® 7414

- **Description** – Solvent-based thinner.
- **Applications** – Diluting and cleaning solvent for specific solvent-based Anti-Friction Coatings, especially for products like 7405, 7409 and D 10.
- **Features** – Transparent.
- **Composition** – Organic solvent.
- **Packages** – Pail: 5kg; Drum 200kg

## Molykote® L-13

- **Description** – Solvent-based thinner.
- **Applications** – Diluting and cleaning solvent for specific solvent-based Anti-Friction Coatings, especially for products like D-321R, D-3484, 3400A Leadfree, 3402C, 106, PTFE-N UV, D-708.
- **Features** – Transparent.
- **Composition** – Mix of organic solvents.
- **Packages** – Bottle: 1l; Can: 5l

## Molykote® Metal Cleaner

- **Description** – Combination of solvents.
- **Applications** – Cleaning and degreasing of brakes, clutches, engine components, electrical contacts and metal surfaces.
- **Features** – Loosens dirty quickly; Does not corrode; Fast and residue free evaporation.
- **Composition** – Mix of organic solvents.
- **Packages** – Aerosol: 400ml

## Molykote® S-1002

- **Description** – Electrical contact cleaner spray. Fast evaporating, no residue cleaner for reducing electrical resistance. Does not attack plastic, rubber or painted surfaces.
- **Applications** – Eliminates oil, fat and dust on electrical and electronic equipment.
- **Features** – Reduces electrical resistance; Fast evaporation without residue; Compatible with a number of plastics and rubbers.
- **Packages** – Aerosol: 400ml

# Dispersions

Molykote® dispersions are finely dispersed solids or other lubricants suspended in lubricating fluids. They are preferred where it is necessary to apply solid lubricants in liquid form to units in operation or to otherwise inaccessible points. Some dispersions serve as anti-wear and extreme pressure additives for lubricating oils like gear and engine oils.



## Molykote® A

- **Description** – Solid-lubricant dispersion in mineral oil for metal/metal combinations involving medium to high loads and speeds.
- **Applications** – Suitable for oil-lubricated frictional surfaces which require additional lubrication to reduce wear and extend service life; Successfully used as an additive to oil, on highly stressed plain and roller bearings, guides, spindles, gears and internal combustion engines.
- **Features** – Increases load-carrying capacity; Reduces friction and wear; Reduces running noise; Improves running-in; Emergency running properties; Prevents and reduces pitting in gears.
- **Composition** – Mineral oil; Molybdenum disulphide; Stabilizers.
- **Temperature Range** – Depends on the oil to which Molykote® A is added
- **Packages** – Aerosol: 150ml, Bottle: 125ml; Cans: 1l, 5l, 25l

## Molykote® HTF

- **Description** – White dispersion of solid lubricants in mineral oil.
- **Applications** – Separation and lubrication at high temperatures; Used successfully for the hot-rolling of tools and the drop-forging of taper plugs made from Ms 58.
- **Features** – High load-carrying properties; Formation of a separating lubricant layer between tool and machine; Wide temperature range; The mineral oil content volatilizes at high temperatures without leaving any residue; Extends the service life of tools.
- **Composition** – Mineral oil; Solid lubricant; Stabilizer; Thickener.
- **Temperature Range** – From -20 to +1150°C
- **Packages** – Pail: 5kg

## Molykote® M-30

- **Description** – Black dispersion of solid lubricants in synthetic oil.
- **Applications** – Used successfully on high temperature chains and rollers of conveyor belts.
- **Features** – Increases load-carrying capacity; Reduces friction and wear; Improves running-in; Emergency running properties; No resinification.
- **Composition** – Synthetic oil; Molybdenum disulphide; Dispersant.
- **Temperature Range** – Fluid lubrication up to +200°C; dry lubrication up to +450°C
- **Packages** – Can: 1kg; Pails: 5kg, 20kg; Drum: 180kg

## Molykote® M-55 Plus

- **Description** – Black dispersion of solid lubricants in mineral oil.
- **Applications** – Used successfully as an additive for mineral oils.
- **Features** – Increases load-carrying capacity; Reduces friction and wear; Reduces running noise; Improves running-in; Emergency running properties; Prevents and reduces pitting in gears.
- **Composition** – Mineral oil; Molybdenum disulphide; Dispersant.
- **Temperature Range** – Depends on the oil to which Molykote® M-55 Plus is added
- **Packages** – Can: 1l; Pails: 5l, 20l

## Molykote® MKL-N

- **Description** – Mineral oil with solid lubricants dispersed in solvent.
- **Applications** – Used for lubrication of chains.
- **Features** – Penetration; Adhesion; Protection against wear; Corrosion protection; Ageing stability.
- **Composition** – Mineral oil; Inhibitors; Adhesion improver; Solid lubricants; Solvents.
- **Temperature Range** – From -25 to +160°C
- **Packages** – Aerosol: 400ml; Can: 1kg; Pail: 5kg

## Molykote® Multigliss

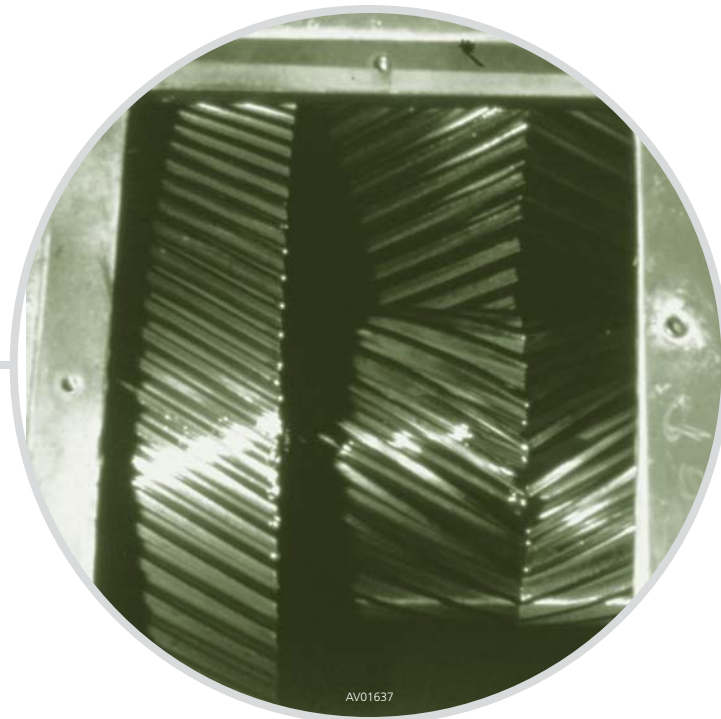
- **Description** – Dispersion with penetrating properties.
- **Applications** – Difficult dismantling owing to corrosion and rust.
- **Features** – Penetration; Rust-loosening properties; Lubrication.
- **Composition** – Mineral oil; Solid lubricants; Stabilizers; Solvent; Corrosion inhibitor.
- **Temperature Range** – From -50 to +50°C
- **Packages** – Aerosol: 400ml; Can: 500ml; Pail: 5l; Drum 200l

## Molykote® Omnigloss

- **Description** – Quick-action penetrating agent incorporating corrosion protection, water-repellent and lubricating properties.
- **Applications** – Suitable for frictional contacts, running at low to medium speeds, which are not equipped with grease nipples or oiling holes; Used on joints, levers, chains and other components of transport and conveyor equipment, textile machinery, automatic filling units and all types of packaging equipment.
- **Features** – Good penetration; Water-repellent; High pressure resistance; Temporary corrosion protection.
- **Composition** – Mineral oil; Solid lubricants; Corrosion inhibitors; Stabilizer.
- **Temperature Range** – From -30 to +80°C
- **Packages** – Aerosol: 400ml; Pail: 5l

## Molykote® W15

- **Description** – White dispersion of solid lubricants in mineral oil.
- **Applications** – Used as an additive for mineral oils.
- **Features** – Increases load-carrying capacity; White in color; consequently particularly suitable in situations sensitive to soiling.
- **Composition** – Mineral oil; White solid lubricants; Dispersant.
- **Temperature Range** – Depends on the oil to which Molykote® W15 is added
- **Packages** – Pails: 5kg, 50kg



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## Other Products

The Molykote® product range will be completed by sprays, powders and fluids for special applications in this section.

These products are designed for wide service temperature range, protection against corrosion, good adhesion strength and pressure resistance.



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## Molykote® Food Grade Spray Oil

- **Description** – Multi-purpose mineral oil spray for food processing equipment.
- **Applications** – Lubrication of mechanical components in food & beverage processing equipment.
- **Features** – Easy to use; Good penetration; High corrosion protection; High load capability; Complies with the listing requirements of the F.D.A. regulation 21 CFR 178.3570 and is registered at NSF under H1 category for “incidental food contact”; Odorless and tasteless.
- **Composition** – Mineral oil; Corrosion inhibitor; EP/AW additive; Propellant.
- **Temperature Range** – From -10 to +120°C
- **Packages** – Aerosol: 400ml

## Dow Corning® FS 1265 Fluid

- **Description** – Fluorosilicone fluid designed for lubricating in harsh environments.
- **Applications** – Typically used as a lubricating oil in vacuum pumps handling reactive gases; In high- and low-temperature bearings; In bearings subjected to washing by fuels or solvents; In vapor cycle engines such as those handling steam or Freon®; As a base fluid for thickening greases.
- **Features** – Resists oxidation, harsh chemicals, fuels, wide temperature ranges; Available in 300, 1000 and 10000 cSt (at 25°C); Wide service temperature range.
- **Composition** – Fluorosilicone oil.
- **Temperature Range** – From -40 to +204°C
- **Packages** – Bottle: 500ml; Pails: 5kg, 25kg

## Molykote® S-1011

- **Description** – Silicone-free mold release spray. Non-silicone release oil for use on most types of plastic.
- **Applications** – Treatment of metal molds for excellent release of plastic parts where a silicone- free release coating is desired.
- **Features** – Allows posterior treatment of surfaces i.e. painting, etc.
- **Temperature Range** – From -55 to +220°C
- **Packages** – Aerosol: 400ml

## Molykote® S-1013

- **Description** – Cutting fluid spray. Cutting fluid for increased lifetime of the tool, allows higher speeds and reduced temperatures.
- **Applications** – For various drilling operations, increases the lifetime of the tool.
- **Features** – Increases tool life; Reduces friction; Free of chlorine additives.
- **Temperature Range** – From -10 to +120°C
- **Packages** – Aerosol: 400ml

## Molykote® S-1014

- **Description** – Open gear and wire rope spray. Open gear and wire rope spray with excellent adhesion; Good water and moisture resistance.
- **Applications** – Open gear and wire rope on all types of equipment, e.g. mining, construction machines.
- **Features** – Good adhesion strength; Good water resistance; High load-carrying capacity.
- **Temperature Range** – From -10 to +110°C
- **Packages** – Aerosol: 400ml

## Molykote® Polygliss N

- **Description** – Adhesive lubricant for metal/metal combinations involving slow to medium-fast movements and light to medium loads.
- **Applications** – Suitable for all types of chains, rails, open gears, joints hinges, etc., particularly when exposed to weather or moisture.
- **Features** – Contains no lead or nickel; Wide service temperature range; Good adhesion; Very good corrosion protection; High water resistance.
- **Composition** – Mineral oil; Adhesion improver; Corrosion inhibitors; EP additive.
- **Temperature Range** – From -30 to +80°C
- **Packages** – Aerosol: 400ml

## Molykote® Separator Spray

- **Description** – Silicone release agent and lubricant.
- **Applications** – Used as a release agent in rubber and plastics processing, cardboard box manufacturing and wood processing. Well suited for easier sliding on conveyor belts, guides, slide plates and tables in food industry and at seals to prevent sticking. Complies with the listing requirements of the F.D.A. regulation 21 CFR 178.3570 and is registered at NSF under H1 category for “incidental food contact.”
- **Features** – Excellent release properties; Reduces friction and wear; Provides better surface quality and easier cleaning; Lubricates plastic and rubber parts; Wide service temperature range; Combustible.
- **Composition** – Silicone oil; Polydimethyl siloxane.
- **Temperature Range** – From -40 to +200°C
- **Packages** – Aerosol: 400ml

## Molykote® Supergliss

- **Description** – Lubricating oil with penetrating properties.
- **Applications** – Simplify dismantling of rusty components. Used as corrosion protection.
- **Features** – Penetration; Rust loosening properties; Lubrication; Corrosion protection.
- **Composition** – Mineral oil; Adhesion improver; Solvent; Corrosion inhibitors; Propellant.
- **Temperature Range** – From -50 to +50°C
- **Packages** – Aerosol: 400ml; Drum: 200l

## Powders

### Molykote® Microsize

- **Description** – Effectively lubricates metal surfaces of all kinds in many difficult and extreme environments e.g. metal/metal pairings at extreme loads and slow speeds or metal/plastic pairings at low loads and low to medium speeds.
- **Applications** – Coating of metallic frictional contacts which cannot be sufficiently lubricated with oil or grease due to high loads, low speeds or unfavorable environmental influences; For finely finished surfaces and highly alloyed steels with dense structure. Microsize Powders is the preferred product; Incorporation as a friction-reducing additive in plastic elastomers and sintered metals.
- **Features** – Reduction of friction and wear; Excellent adhesion on metal surfaces; Extreme pressure resistance; Resistant to oxidation; Wide service temperature range.
- **Composition** – Molybdenum disulphide.
- **Temperature Range** – From -185 to +450°C
- **Packages** – Can: 1kg; Pails: 5kg, 25kg

### Molykote® Z

- **Description** – Effectively lubricates metal surfaces of all kinds in many difficult and extreme environments e.g. metal/metal pairings at extreme loads and slow speeds or metal/plastic pairings at low loads and low to medium speeds.
- **Applications** – Coating of metallic frictional contacts which cannot be sufficiently lubricated with oil or grease due to high loads, low speeds or unfavorable environmental influences.
- **Features** – Reduction of friction and wear; Excellent adhesion on metal surfaces; Extreme pressure resistance; Resistant to oxidation; Wide service temperature range.
- **Composition** – Molybdenum disulphide.
- **Temperature Range** – From -185 to +450°C
- **Packages** – Can: 1kg; Pail: 5kg; Bag: 25kg; Drums: 50kg, 100kg



# Food Grade Products and Sprays

## Food Grade Products – NSF H1<sup>1</sup>

### Assembly Paste

Molykote® P-1900

### Greases

Molykote® G-0050FG

Molykote® G-0051FG

Molykote® G-0052FG

Molykote® G-4500

Molykote® G-4501

Molykote® HP-300

Molykote® G-5032

### Gearbox Oils

Molykote® L-0115FG Gear Oil

Molykote® L-0122FG Gear Oil

Molykote® L-0146FG Gear Oil

Molykote® L-1115FG Synthetic Gear Oil

Molykote® L-1122FG Synthetic Gear Oil

Molykote® L-1146FG Synthetic Gear Oil

### Air Compressor Oils

Molykote® L-1232FG Synthetic Compressor Oil

Molykote® L-1246FG Synthetic Compressor Oil

### Vacuum Pump Oil

Molykote® L-1668FG Synthetic Blend Vacuum Pump Oil

### Hydraulic Oils

Molykote® L-0532FG Multi-purpose Oil

Molykote® L-1346FG Synthetic Blend Hydraulic Oil

Molykote® L-1368FG Synthetic Blend Hydraulic Oil

### Multi-purpose Oils

Molykote® L-0510FG Multi-purpose Oil

Molykote® L-0532FG Multi-purpose Oil

### Chain Oils

Molykote® L-0460FG Chain Oil

Molykote® L-1468FG Synthetic Freezer Chain Oil

### Other Sprays

Molykote® Food Grade Spray Oil

Molykote® Separator Spray

<sup>1</sup> Lubricants with incidental food contact; must comply with 21 CFR 178.3570; can be used in food-processing environments where there is possibility of incidental food contact

## Sprays

### Pastes

Molykote® 1000 Spray

Molykote® HSC Plus Spray

Molykote® D Spray

Molykote® G-Rapid Plus Spray

Molykote® Cu-7439 Plus Spray

### Greases

Molykote® 1122 Spray

Molykote® G-4500 Spray

### Anti-Friction Coatings

Molykote® PTFE-N UV Spray

Molykote® D-321 R Spray

### Other Coatings

Molykote® S-1010 Spray

Molykote® Metal Protector Plus Spray

Molykote® L-0500 Spray

### Solvents

Molykote® S-1002 Spray

Molykote® Metal Cleaner Spray

### Dispersions

Molykote® A Spray

Molykote® MKL-N Spray

Molykote® Multigliss Spray

Molykote® Omnigliss Spray

### Other Products

Molykote® Food Grade Spray Oil

Molykote® S-1011 Spray

Molykote® S-1013 Spray

Molykote® S-1014 Spray

Molykote® Polygliss N Spray

Molykote® Supergliss Spray

Molykote® Separator Spray

# Physical Properties

## Pastes

Thread Pastes	Color	Unworked Penetration [mm/10]	Density at 20°C [g/ml]	Base Oil Viscosity at 40°C [mm <sup>2</sup> /s]
Molykote® 1000	brown	280-310	1.25	
Molykote® HSC Plus	copper	250-280	1.40	
Molykote® P-37	grey/black	280-310	1.20	
Molykote® P-74	grey/black	280-310	1.20	65
Molykote® P-1600	copper	330-370	1.10	105
<b>Assembly Pastes</b>				
Molykote® D	white	250-280	1.20	
Molykote® G-n Plus	black	280-310	1.35	
Molykote® G-Rapid Plus	black	255-275	1.40	
Molykote® M-77	black	280-330	1.95	
Molykote® U-n	black	250-280	1.70	
<b>Grease Pastes</b>				
Molykote® Cu-7439 Plus	copper	320-370	1.00	1100
Molykote® DX	white	285-315	1.10	110
Molykote® E	yellow	265-295	1.20	18
Molykote® P-40	dark green	310-350	1.05	360
Molykote® P-1500	white	290-320	1.05	90
Molykote® P-1900	white	290-340	1.10	85
Molykote® TP-42	beige	265-300	1.20	185
Molykote® X	black	255-275	1.05	115
<b>Other Pastes</b>				
Molykote® HTP	white	250-280	1.50	25

# Physical Properties

Service Temperature Range [°C]	Four Ball Tester		Pressfit Test	Screw Test in Bolted Connection		Water Resistance at 90°C
	Weld Load [N]	Wear Scar Under 800N Load [mm]		$\mu$ Thread	$\mu$ Head	
-30 to +650	4800	1.00		0.13	0.08	0
-30 to +1100	4800	1.10		0.14	0.09	0
-40 to +1400	4400	1.70		0.15	0.09	0
-40 to +200 to +1500 (dry lubricant)	4800	1.10		0.13	0.08	0
-20 to +130 to +1100 (dry lubricant)	3600	1.15		0.12	0.12	0
-25 to +250	2600	1.10	0.10	0.13	0.08	1
-25 to +450	2800	0.75	0.08	0.12	0.06	2
-35 to +450	5300	0.50	0.05	0.10	0.06	1
-45 to +230 to +450 (dry lubricant)	2000					0
-40 to +450	3800	0.80	0.09	0.14	0.12	0
-30 to +300 to +650 (dry lubricant)	2500	1.00	0.07	0.17	0.10	1
-25 to +125	4800	0.75	0.10			2
-50 to +160	4800	0.80	0.06			0
-40 to +230 to +1200 (dry lubricant)	3000	0.94	0.12	0.16	0.08	1
-50 to +160	4000	0.82	0.12			0
-30 to +300	3200	0.90	0.10	0.10	0.10	1
-25 to +250	3000	0.90	0.09			2
-30 to +135	3000	0.78	0.07			1
-20 to +1150	2200	1.00				0

# Physical Properties

## Greases

Mineral Oil Greases	Color	NLGI Class	Worked Penetration [mm/10]	Base Oil Viscosity at 40°C [mm <sup>2</sup> /s]
Molykote® 1102	black	approx. 3	205-240	900
Molykote® 1122	black	approx. 2	250-280 <sup>1</sup>	1500
Molykote® 165 LT	black	2-3	240-270 <sup>1</sup>	320
Molykote® BR2 Plus	black	2	265-295	114
Molykote® FB 180	black	2	265-295	260
Molykote® G-0050FG	white	0	355-385	70
Molykote® G-0051FG	white	1	310-340	70
Molykote® G-0052FG	white	2	265-295	115
Molykote® G-0100	yellowish beige	2	265-295	96
Molykote® G-0101	yellowish brown	2	280	101
Molykote® G-0102	brown	2	275-295	150
Molykote® G-67	beige	1	310-340	115
Molykote® Longterm 00	black	00	400-430	300
Molykote® Longterm 2/78G	black	2	265-295	112
Molykote® Longterm 2 Plus	black	2	265-295	265
Molykote® Longterm W2	white	2	265-295	125
Molykote® Multilub	beige	2	265-295	114
Molykote® X5-6020	white	1-2	300-330	80

### Semi-synthetic Greases

Molykote® G-1001	light brown	3	250	58
Molykote® G-68	beige	2-3	250-280	75
Molykote® PG-75	beige	2	265-295	32

### Synthetic Greases, PAO

Molykote® EM-50L	white	1	310-340	1050
Molykote® EM-60L	white	1	310-340	18
Molykote® G-2001	beige	2	265-295	35
Molykote® G-2003	beige	2	265-295	
Molykote® G-4500	white	2	265-295	108
Molykote® G-4501	white	1	310-340	110
Molykote® G-4700	black	2	265-295	150
Molykote® MH-62	beige	2	280	28
Molykote® EM-30L	white	1	310-340	90
Molykote® PG-65 Plastislip	beige	1-2	275-305	18
Molykote® YM-102	yellow	1-2	285-315	29
Molykote® YM-103	yellow	1-2	285-315	29

<sup>1</sup>unworked penetration is measured

# Physical Properties

Service Temperature Range [°C]	Drop Point [°C]	Four Ball Tester Weld Load [N]	FAG Bearing Tester FE9, F50 (>100h)	Corrosion Protection, SKF-Emcor
0 to +160	none	2100		5
+10 to +160	none	2600		5
-25 to +120	+175	4400		0
-30 to +130	+175	3600	+130°C	0
-30 to +160	none	2200		0-1
-20 to +150	+216	> 3150		0
-20 to +150	+232	> 3150		0
-20 to +150	+246	> 3150		0
-40 to +170	> +250	1600	+160°C	0
-20 to +150	> +260	2000		0
-25 to +140	> +300	3200	+140°C	0-1
-25 to +120	+155	4800		0-1
-40 to +110	+190	3400		1
-35 to +130	+180	3200		0
-25 to +110	+175	3800	+110°C	0-1
-30 to +110	+180	2400		0-1
-25 to +120	+210	2200		1
-30 to +150	+195	3200		0
<hr/>				
-30 to +130	> +260	1800	+130°C	0
-30 to +140	+190	1900		0
-40 to +130	+190	1300		1-2
<hr/>				
-40 to +150	+195	1400		1
-60 to +130	+195	3100		3-4
-50 to +130	> +190	1500	+130°C	0
-50 to +140	+190	2200		0
-40 to +150	+270	3200		1
-40 to +150	+260	3600		0
-40 to +177	+280	4000		0
-40 to +120	+195	3500		0
-45 to +150	+195	3800		2-3
-55 to +130	+200	2000		0-1
-50 to +150	+195	4200		0
-45 to +120	+195	5200		2

# Physical Properties

## Greases

Synthetic Greases, POE	Color	NLGI Class	Worked Penetration [mm/10]	Base Oil Viscosity at 40°C [mm <sup>2</sup> /s]
Molykote® 7514	light brown	1-2	290-320	49
Molykote® BG-20	beige	2-3	240-270 <sup>1</sup>	55
Molykote® BG-555	light straw	3	255	26

### Synthetic Greases, Fluorosilicone

Molykote® 1292	whitish	1-2	280-340	495
Molykote® 3451	white	2	265-295	495
Molykote® 3452	white	2-3	240-280	5310

### Synthetic Greases, PFPE

Molykote® G-6000	light brown	2	280	103
Molykote® HP-300	white	2	265-295	160
Molykote® HP-870	white	2	265-295	345

### Synthetic Greases, Silicone

Molykote® 33 Light	pink	1	300-340	77
Molykote® 33 Medium	pink	approx. 2	260-300	77
Molykote® 41	black	approx. 2	260-300	160
Molykote® 44 Light	brown	1-2	290-330	84
Molykote® 44 Medium	brown	2-3	240-280	84
Molykote® 55 O-Ring	pink	approx. 2	260-300	60
Molykote® 7348	light beige	2	265-295	240
Molykote® 822M	whitish	approx. 2	250-290	240
Molykote® G-5032	white	2	265-295	500 (at 25°C)
Molykote® G-72	white to light grey	0-1	320-370	260
Molykote® G-807	white	approx. 1	300-330 <sup>1</sup>	22500
Dow Corning® High Vacuum Grease	white, translucent	approx. 2	260	
Molykote® PG-21	white	2	265-295	150
Molykote® PG-54	whitish	2-3	245-275	150

<sup>1</sup>unworked penetration is measured

# Physical Properties

Service Temperature Range [°C]	Drop Point [°C]	Four Ball Tester Weld Load [N]	FAG Bearing Tester FE9, F50 (>100h)	Corrosion Protection, SKF-Emcor
-40 to +180	> +200	1500		0
-45 to +180	> +295	2400	+180°C	1-2
-40 to +150	+195			0
-40 to +200	> +250	3400		
-40 to +230	> +260	3200		
-30 to +230	> +220	4400		
-40 to +200	> +260	1300		0
-35 to +250	none	3300		
-20 to +250	none	4600		0-1
-73 to +180	> +200			
-73 to +180	> +200			
-20 to +290	none			
-40 to +200	> +200			
-40 to +200	> +200			
-65 to +175	> +190			
-20 to +230	> +290			
-40 to +200	> +200			
-40 to +200	none	1180		
-40 to +200	> +250			0-1
-40 to +150				
-45 to +200	+300			
-50 to +190	> +250			0-1
-50 to +180	> +250			0-1

# Physical Properties

## Compounds

	Color	Unworked Penetration [mm/10]	Worked Penetration 60 Strokes, Max. [mm/10]	Service Temperature Range [°C]	Drop Point [°C]
Molykote® 111 Compound	white, translucent	185	260	-40 to +200	none
Dow Corning® 4	white, translucent	220	310	-55 to +200	none
Dow Corning® 7	white, translucent	250	270	-40 to +200	none
Dow Corning® 340	white	300	275		+300

## Coatings

Anti-Friction Coatings	Solid Lubricants	Solvents	Binder	Color	Service Temperature Range [°C]	Drying Time at 20°C [min]
Molykote® 106	MoS <sub>2</sub>	organic	organic	dark grey	-70 to +250	
Molykote® D-321 R	MoS <sub>2</sub>	organic	inorganic	grey-black	-180 to +450	5
Molykote® 3400A Leadfree	MoS <sub>2</sub>	organic	organic	dark grey	-200 to +430	
Molykote® 3402C	MoS <sub>2</sub>	organic	organic	grey	-200 to +310	15
Molykote® 7400	MoS <sub>2</sub>	water	organic	dark grey	-70 to +200	15
Molykote® 7405	synthetic	organic	organic	yellowish	-70 to +200	
Molykote® 7409	MoS <sub>2</sub>	organic	organic	grey-black	-70 to +380	
Molykote® D-10	graphite	organic	organic	black	-70 to +380	
Molykote® D-3484	MoS <sub>2</sub>	organic	organic	grey-black	-70 to +250	
Molykote® D-708	PTFE	organic	organic	black	-180 to +240	
Molykote® D-96	PTFE	water	organic	transparent	-40 to +80	10
Molykote® PTFE-N UV	PTFE	organic	organic	transparent	-180 to +240	5/10

Other Coatings	Active Agent	Solvents	Color	Service Temperature Range [°C]
Molykote® L-0500	zinc and aluminum flakes	organic	silver	-30 to +240
Molykote® Metalform	wax	organic	transparent	-60 to +120
Molykote® Metal Protector Plus	synthetic wax	organic	transparent	
Molykote® S-1010		water	transparent	0 to +100

<sup>1</sup>surface pre-treatment: p = phosphated, s = sandblasted, b = bright

<sup>2</sup>application method: sp = spraying, dp = dip-spinning

<sup>3</sup>film thickness minimum 40 µm

# Physical Properties

Oil Bleed 24h at 200°C, Max. [%]	Oil Evaporation 24h at 200°C, Max. [%]	Dielectric Constant at		Dissipation Factor at		Dielectric Strength, 50 mm Gap [V/mm]	Volume Resistivity at 23°C [Ohm x cm]	Arc Resistance [s]
		100 Hz	100 kHz	100 Hz	100 kHz			
0.5	2.0	2.88	2.95	0.0001	< 0.0005	> 450	$2.17 \times 10^{15}$	124
6.0	2.0	2.98	3.01	0.0001	< 0.0002	> 450	$1.1 \times 10^{15}$	130
6.5	0.8	2.85	2.83	< 0.0001	< 0.0001	> 450	$2.8 \times 10^{15}$	126
0.05	0.5	5	5	0.01	0.02	210	$2.0 \times 10^{15}$	165

Curing Time [min/°C]	Falex Load- Carrying Capacity [N] <sup>1</sup>	Fretting Corrosion Debyer Tester [oscillations] <sup>2</sup>	Salt Spray Test [h] <sup>1,2</sup>	Screw Test in Bolted Connection		Thinner	Flash Point [°C]
				μ Thread	μ Head		
60/+150 30/+180	p = 13600	$24 \times 10^6$				Molykote® L13	+24
5/+20	p = 12500	$14 \times 10^6$				Molykote® L13	+23
30/+200	p = 16000	$7 \times 10^6$	p + sp = 500 p + dp = 240			Molykote® L13	+10
120/+20	s = 10700 p = 15500	$5 \times 10^6$	p = 120			Molykote® L13	+6
5/+90 40/+20	p = 11300	$9 \times 10^6$				water	none
60/+120	b = 8000	$36 \times 10^6$	p + sp = 200 p + dp = 96	s = 0.15	s = 0.08	Molykote® 7414	+41
30/+220 120/+150	s = 14700	$36 \times 10^6$	p + sp = 300 p + dp = 96			Molykote® 7414	+28
30/+180 20/+210	s = 2800					Molykote® 7414	+65
10/+170 5/+200	15500	$28 \times 10^6$	p = 24			Molykote® L13	+23
20/+200 60/+180	s = 2250	$1 \times 10^6$	p + sp = 500 p + dp = 360	s = 0.12	s = 0.12	Molykote® L13	0
120/+20				s = 0.09	s = 0.09	water	> +100
120/+20	4000		p + sp = 24			Molykote® L13	-12

Drying Time at 20°C [min]	Four Ball Tester Weld Load [N]	Wear Scar Under 800N Load [mm]	Pressfit Test	Salt Spray Test [h]	Flash Point [°C]
30				240 <sup>3</sup>	+25
90	1200	0.85			+28
90			0.12	510	+24

# Physical Properties

## Solvents

	Solvents	Color	Flash Point [°C]
Molykote® 7414	organic	transparent	+91
Molykote® L-13	organic	transparent	+27
Molykote® Metal Cleaner	organic	transparent	
Molykote® S-1002	organic	yellowish, transparent	

## Dispersions

	Base Oil	Color	Base Oil Viscosity at 40°C [mm²/s]	Pour Point [°C]	Flash Point [°C]	Density at 15°C [g/ml]	Service Temperature Range [°C]
Molykote® A	MO	black	12.5			0.89	depends on oil to which it is added
Molykote® HTF	MO	white	29		> +218	0.86	-20 to +1150
Molykote® M-30	POE/PAG	black	120		> +200	1.00	up to +200, dry lubrication up to +450
Molykote® M-55 Plus	MO	black	73.2		+210	0.91	depends on oil to which it is added
Molykote® MKL-N	MO	black	4000			0.87	-25 to +160
Molykote® Multigliss	MO	transparent	12.5	-57		0.85	-50 to +50
Molykote® Omnigliss	MO	light amber	11.8	-53		0.84	-30 to +80
Molykote® W15	MO	white	50		> +200	0.94	depends on oil to which it is added

## Other Products

	Base Oil	Color	Service Temperature Range [°C]	Base Oil Viscosity at 40°C [mm²/s]	Density at 15°C [g/ml]	Pour Point [°C]
Molykote® Food Grade Spray Oil	MO	transparent	-10 to +120	96		< -10
Dow Corning® FS 1265 Fluid	FS	clear to straw	-40 to +204	300/1000/10000 <sup>1</sup>	1.25/1.28/1.30	-43/-41/-1
Molykote® S-1011	MO/PAO	transparent	-55 to +220	< 50		
Molykote® S-1013	MO	yellow transparent	-10 to +120	15		
Molykote® S-1014	MO	black	-10 to +110	3330 <sup>1</sup>		
Molykote® Polygliss N	MO	white, transparent	-30 to +80	26.7	0.91	-53
Molykote® Separator Spray	Si	transparent	-40 to +200		0.97	-43
Molykote® Supergliss	MO	bright, transparent	-50 to +50	3.59	0.83	-56

	Particle Size (Fischer) [µm]	Color	Service Temperature Range [°C] <sup>2</sup>	Pressfit Test	Density at 20°C [g/ml]	Load-carrying Capacity [N]
Molykote® Microsize	0.65 to 0.75	black	-185 to +450	0.06	4.80	> 20000
Molykote® Z	3 to 4	black	-185 to +450	0.05	4.80	> 20000

<sup>1</sup>measured at 25°C

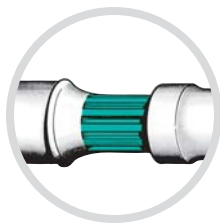
<sup>2</sup>in hydrogen atmosphere: up to +700°C; in vacuum: up to +1100°C; in inert gas (argon): up to +1300°C

## Rolling Element Bearings



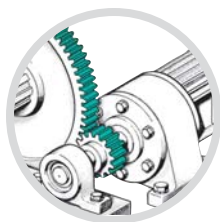
User Problem	Requirements	Molykote® Solution
Short life due to high loads	Multi-purpose grease with MoS <sub>2</sub>	BR2 Plus
	Extreme pressure and water-resistant grease	Longterm 2 Plus
	Wide temperature range, MoS <sub>2</sub>	G-4700
Short life due to water and/or humidity exposure	Moderate loads and speeds	G-0102
Ability to operate at extremely low temperatures (-73°C)	Low to moderate loads and speeds	33 Light, 33 Medium
Short life due to high temperatures (up to +160°C continuous)	Moderate to high loads and low to moderate speeds	FB 180
Short life due to high temperatures (up to +170°C continuous)	Moderate loads and high speeds	G-0100
Short life due to very high temperatures (up to +180°C continuous)	Moderate to high loads and high speeds	BG-20
Short life due to very high temperatures (up to +200°C continuous)	Low to moderate loads and speeds	44 Light, 44 Medium
Short life due to very high temperatures (up to +200°C continuous)	Low to moderate loads, resistance against humidity	G-6000
Short life due to extremely high temperatures (up to +250°C continuous)	Resistant against solvents and other aggressive chemicals	HP-870
Short life due to extremely high temperatures (up to +250°C continuous)	Food Grade	HP-300
Short life due to extremely high temperatures (up to +230°C continuous)	Heavy duty and chemically resistant grease	3451
Short life due to extremely high temperatures (up to +230°C continuous)	Low to moderate loads and speeds	7348
Need for operation in very high vacuum environment	Service temperatures from -35 to +250°C	HP-300
Lubricant failure because of aggressive environmental influence	Service temperatures from -35 to +250°C	HP-870, HP-300
	Service temperatures from -40 to +200°C	1292
	Service temperatures from -40 to +230°C	3451
Need for low noise (medium to small size bearings)	Service temperatures from -40 to +150°C	BG-555
Need for high speed applications	High speeds (DN-value up to 900.000 mm/min)	G-2001
	Very high speeds (DN-value up to 1.300.000 mm/min)	BG-55
Lubrication of needle bearings	Service temperature range from -40°C up to +180°C	7514
Need for food grade applications	Normal temperatures and moderate loads	G-005xFG
Need for food grade applications	Wide temperature range, moderate to high loads, high speeds	G-4501, G-4500

## Shaft/Hub Connections



User Problem	Requirements	Molykote® Solution
Stick-slip and damage during assembly and running-in	Dry film lubricant coating	D-321 R
	Pretreatment with solid lubricants	G-Rapid Plus
	Adhesive pretreatment assembly paste	G-n Plus
High wear, stiff operation, fretting corrosion, increased tolerances	Multi-purpose grease with MoS <sub>2</sub>	BR2 Plus
	Extreme pressure MoS <sub>2</sub> grease	Longterm 2 Plus
	Fretting corrosion	P-40
	Food grade	P-1900
Short life and lubrication intervals owing to wet environment	White long-life and water-resistant grease	Longterm W2
	Extreme pressure and water-resistant grease	Longterm 2 Plus

## Steel Gear Wheels in Open Gears



User Problem	Requirements	Molykote® Solution
High wear, pitting or corrosion on gear wheels running at low to medium speeds (up to 2 m/s)	Adhesive pretreatment assembly paste	G-n Plus
	Pretreatment with solid lubricants	G-Rapid Plus
	Protection against fretting corrosion	TP-42
	Adhesive grease against fretting corrosion	G-67
	Protects against wear due to high loads	165 LT
	Synthetic grease with solid lubricants	1122
	Protection against fretting corrosion, food grade	P-1900
High wear, pitting or corrosion on gear wheels running at high speeds (up to 6 m/s)	Good water- and moisture-resistant grease (spray)	S-1014
	Adhesive grease in difficult operating conditions	1122

## Plastic Gear Wheels in Enclosed Gears



User Problem	Requirements	Molykote® Solution
Running-in damage, stick-slip, scuffing, seizure	White synthetic grease with solid lubricants	EM-30L
	General purpose grease for plastic lubrication	X5-6020
High wear and short life owing to high temperatures or heavy loads. Swelling, shrinking, stress cracks, change in strength characteristics due to inadequate lubricant	White silicone grease for wide temperature range	PG-21
	Synthetic grease with solid lubricants for high loads	G-2003
	White synthetic grease with solid lubricants for extreme pressure	EM-30L
	White silicone grease with solid lubricants	PG-54
	Semi-synthetic grease for enclosed plastic and steel gears	G-68
	General purpose, semi-synthetic grease	PG-75
	General purpose grease for plastic lubrication	X5-6020
	Synthetic grease with solid lubricants for extreme pressure	YM-103

## Seals and Packings



User Problem	Requirements	Molykote® Solution
Damage due to lubrication failure under aggressive environmental influences	Resistant against solvents and other aggressive chemicals	HP-870
	Silicone compound resistant against solvents and gases	111 Compound
Shrinkage, swelling and stress cracking due to lubricant incompatibility	Chemically resistant fluoro-silicone grease	3452
	White synthetic grease with solid lubricants compatible with many plastics	EM-30L
	Synthetic grease with noise dampening capacity and good water-resistance	EM-50L
	Low temperature synthetic grease compatible with many plastics	EM-60L
	Synthetic grease compatible with many plastics, protects against stress-cracking formation	HP-870
	General purpose silicone compound	111 Compound
	Silicone grease with very good adhesion and lubricity	G-807

## Steel Gear Wheels in Enclosed Gears



User Problem	Requirements	Molykote® Solution
Running-in damage	Pretreatment assembly paste	G-Rapid Plus
	Dry film lubricant coating	D-321 R
Wear, pitting	MoS <sub>2</sub> additive for gear oils	55 Plus
	Adhesive, semi-fluid mineral oil grease	Longterm 00
	Synthetic grease with solid lubricants	1122
Micro-pitting and short life due to high temperature	Full synthetic oils	L-21xx
Short life due to high temperatures, high load in helical steel drive gears	Good oxidation and thermal stability	L-2115
Short life due to high temperatures (≥75°C) in helical steel drive gears in food processing plant	Good oxidation and thermal stability, Food grade	L-1115FG
High maintenance cost due to frequent oil changes in worm gears that are difficult to access	Synthetic food grade gear oil	L-1146FG
Corrosion protection in worm gears made out of bronze	No sulphur phosphorous EP additives	L-1146FG
Steel gears in area of a food processing plant, prone to frequent wash-downs	Food grade, high resistance to water emulsification	L-1115FG

## Sliding Contact Bearings Made of Metal



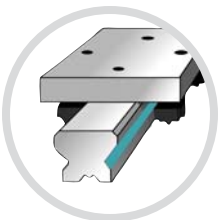
User Problem	Requirements	Molykote® Solution
Stick-slip and damage during assembly and running-in	Dry film lubricant coating	D-321 R
	Adhesive pretreatment assembly paste	G-n Plus
	Pretreatment with solid lubricants	G-Rapid Plus
	Need for food grade	P-1900
Scuffing, scoring, high wear, short life due to high load	Multi-purpose grease with MoS <sub>2</sub>	BR2 Plus
	Extreme pressure MoS <sub>2</sub> grease	Longterm 2 Plus
	Need for food grade	G-4500
Short life and lubrication intervals owing to wet environment	White long-life and water-resistant grease	Longterm W2
	Extreme pressure and water-resistant grease	Longterm 2 Plus

## Sliding Contact Bearings Made of Plastic



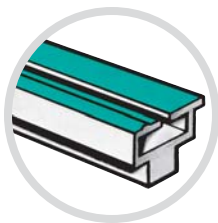
User Problem	Requirements	Molykote® Solution
Running-in damage, stick-slip, scuffing, seizure	White synthetic grease with solid lubricants	EM-30L
	Extreme pressure synthetic grease paste	E
	General purpose grease for plastic lubrication	X5-6020
High wear, stiff operation, stress cracks, swelling, shrinking, effect on hardness due to inadequate lubricant, short life owing to high temperatures or high loads	White silicone grease for wide temperature range	PG-21
	White synthetic grease with solid lubricants for extreme pressure	G-2003
	White synthetic grease with solid lubricants for extreme pressure	EM-30L
	White silicone grease with solid lubricants	PG-54
	General purpose, semi-synthetic grease	PG-75
	General purpose grease for plastic lubrication	X5-6020
	Synthetic grease with solid lubricants for extreme pressure	YM-103

## Linear Motion Guides



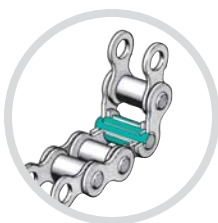
User Problem	Requirements	Molykote® Solution
High lubricant usage with oil lubrication	Coat with AF Coating then apply thin film of DX paste	3402C + DX
High wear due to intermittent operation or by small movement	Dry film lubricant for short travel distances	3402C
	Apply both lubricants due to increased loads	3402C + DX
Insufficient accuracy as a result of surface rolling and wear	Apply both lubricants due to high loads and medium speeds	3402C + Longterm 2 Plus
High temperatures	Moderate to high loads, high speeds	BG-20

## Linear Sliding Guides



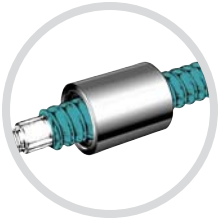
User Problem	Requirements	Molykote® Solution
Stick-slip and damage during assembly and running-in	Adhesive pretreatment assembly paste	G-n Plus
	Pretreatment assembly paste	G-Rapid Plus
	Multi-purpose grease with MoS <sub>2</sub>	BR2 Plus
	Extreme pressure MoS <sub>2</sub> grease	Longterm 2 Plus
Scuffing, scoring, high wear, short life due to high load	Multi-purpose moderate load and food grade (NSF H1) grease	G-4500
	Synthetic grease for high loads on metals	G-4700
	General purpose, semi-synthetic grease	PG-75
	White synthetic grease with solid lubricants for extreme pressure	EM-30L
	Silicone grease for plastics with wide temperature range	33 Light, 33 Medium
Short life and lubrication intervals owing to wet environment	White long-life and water-resistant grease	Longterm W2
	Extreme pressure and water-resistant grease	Longterm 2 Plus
Fretting corrosion	White, extreme pressure solid lubricant paste	DX
	Adhesive lubricant against fretting corrosion	G-67
	Food grade	P-1900

## Chains



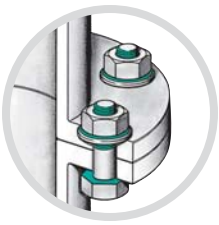
User Problem	Requirements	Molykote® Solution
High wear and short service life caused by high temperatures or heavy loads	Semi-synthetic chain oil	S-1500
	High temperature synthetic chain oil	S-1501
	Service temperatures from -30 to +250°C	S-1502
	High temperature/low friction synthetic chain oil, up to +250°C	S-1503
	Adhesive/low friction synthetic chain oil, up to +250°C	S-1504
	Solvent-free high temperature chain oil	CO 220
High wear and short service life due to insufficient lubrication at high speeds	Adhesive chain lubricant with MoS <sub>2</sub>	MKL-N
High wear and short service life caused by extreme temperatures or heavy loads	Dry lubrication by solid lubricants up to +450°C	M-30
High wear and corrosion due to heavy loads and wet environments	Black chain lubricant for grease nipples	1122
	Adhesive paste for normal and stainless steel chains	P-40
	Grease for chains in food grade applications	G-4500
High wear and corrosion due to high water wash-out	High resistance to water emulsification, High film strength	L-0460FG
High wear and short service life caused by very low temperatures	Food grade, Pour point < -50°C	L-1468FG

## Planetary Roller Screws



User Problem	Requirements	Molykote® Solution
Contamination as a result of high lubricant delivery during oil lubrication	Dry film, oil resistant lubricant	7409
Increased wear caused by lubricant oxidation or decomposition at extreme temperatures or under aggressive ambient conditions	Silicone grease for high and very low temperatures	33 Light, 33 Medium
	Silicone grease with wide temperature range	44 Light, 44 Medium
	Chemically resistant fluoro-silicone grease	3451
Wear caused by high centrifugal forces at the bearing guide system as a result of high speeds	General purpose grease	Multilub
	Synthetic grease for high speeds	BG-20

## Bolts, Studs



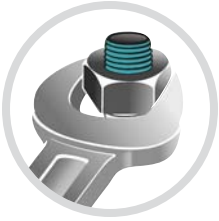
User Problem	Requirements	Molykote® Solution
Fretting and seizure on bolts made of austenitic stainless steel	White assembly paste	D
	Black, metal-free assembly paste	P-74
	Dry film lubricant coating	D-321 R
	Food grade lubricant	P-1900
Fretting and seizure on bolts with galvanized surface	Very low assembly torque	G-Rapid Plus
	Dry coating preferred	D-321 R
Broken bolts and stripped threads owing to scatter of friction coefficient	Consistent assembly torque	1000
	Dry film lubricant coating	7405
Fretting and seizure on bolts exposed to low to medium temperatures and corrosive environments	Metal-free lubricating paste	P-40
Broken bolts due to stress cracks on thread surfaces	High temperature threads (nickel alloys)	P-37
Seizure or broken bolts due to unsuitable lubricants	Multi-purpose copper paste	P-1600
Seizure or broken bolts due to high temperature and corrosive environments	High temperature anti-seize paste	HSC Plus

## Press-fit Joints



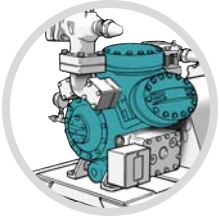
User Problem	Requirements	Molykote® Solution
Difficult and time consuming assembly because of stick-slip; scuffing, scoring or component damage during press-fitting	Adhesive pretreatment assembly paste	G-n Plus
	White assembly paste	D
	Pretreatment with solid lubricants	G-Rapid Plus
	Food grade assembly paste	P-1900

## Maintenance, Repairs



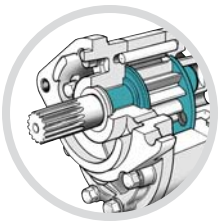
User Problem	Requirements	Molykote® Solution
Difficult dismantling owing to corrosion and rust	5 in 1	Multigliss
	Penetrating oil	Supergliss
Contaminated components	Metal/Brake cleaner	Metal Cleaner
Stick-slip and damage during assembly and running-in	Adhesive pretreatment assembly paste	G-n Plus
	Pretreatment with solid lubricants	G-Rapid Plus
Corroded components due to corrosive environment	Adhesive copper paste	Cu-7439 Plus
Seized or broken bolted connections	White assembly paste	D
	Pretreatment with solid lubricants	G-Rapid Plus
	Consistent assembly torque	1000
	High temperature threads (nickel alloys)	P-37
	Food Grade paste (stainless steel alloys)	P-1900
Wear, pitting and noise	MoS <sub>2</sub> additive for motor and gear oils	A
Corrosion	Dry, transparent corrosion protector	Metal Protector Plus
Difficult applications which are not equipped with grease nipples	Low viscosity solid lubricant dispersion	Omnigliss
Short life and lubrication intervals owing to wet environment	Adhesive lubricant dispersion	Polygliss N
Welding spots on welding tools and metal surfaces	Transparent, water-based fluid	S-1010
Sticking of molded components	Non silicone release fluid	S-1011
Dust contamination in electrical components	Electrical contact cleaner	S-1002
Damage of drills and components	Cutting fluid	S-1013
Sticking of rubber, metal and plastic parts	Silicone release agent and lubricant	Separator Spray
	Dry Film Lubricant	PTFE-N UV
Repair damaged galvanized surfaces	Corrosion protective dry film coating	L-0500
Need of high heat conductivity	Heat transfer paste	Dow Corning® 340

## Vacuum Pumps, Air Compressors



User Problem	Requirements	Molykote® Solution
Short lubricant lifetime, faulty pump performance	Good oxidation and thermal stability	L-0610
Short service life due to high exposure to water vapor in food processing environment	Food grade, High resistance to water emulsification	L-1668FG
Short service life due to varnish built up	Good oxidation and thermal stability	L-1246
Short service life due to high temperatures	Synthetic base oil (PAO)	L-1246
	Food grade	L-1246FG

## Hydraulic Pumps



User Problem	Requirements	Molykote® Solution
Short service life due to water emulsification	High resistance to water emulsification	L-1346FG
	Food grade	L-1346FG
Must work under low temperatures	Extended pour point value (-42°C)	L-1368FG

## Mechanical Tests

Machine Test Equipment	Machine and Test Description	Test Result	Comply to Industrial Standard	Products That Can be Tested
FAG – FE 9 Machine	Test apparatus to determine the life of lubricating greases in rolling-element bearings under specific temperature, rotational speed and axial load.	Lifetime of bearings in h	DIN 51821	Greases, Pastes
High Temperature Screw Tester	Electronic torque-wrench equipment to test the torques of lubricated, thermal pretreated standard M 12 - 1.7709 bolts.	Breakaway torque in Nm	Not Applicable	Pastes
LFW 1 Osz.	Testing machine to investigate tribological properties of a steel block pressed against a lubricated oscillating ring.	Static and dynamic friction coefficient $\mu$ , wear in mm, life time of lubricant	ASTM D2714, ASTM D2981, ASTM D3704	Greases, Pastes, Anti-Friction Coatings, Oils
LFW 1 Rot.	Testing machine to investigate tribological properties of a steel block pressed against a lubricated rotating ring.	Static and dynamic friction coefficient $\mu$ , wear in mm, life time of lubricant	ASTM D2714, ASTM D2981, ASTM D3705	Greases, Pastes, Anti-Friction Coatings, Oils
Low Noise Tester	Computer aided test device to determine the noise of grease lubricated bearings by vibration pickup.	Noise level	Not Applicable	Greases
Pin & Vee Block Tester	Test device for determination of tribological properties of a lubricated, rotating steel shaft between two V-shaped steel blocks under specified load.	Friction coefficient $\mu$ , wear in mm, endurance life in h, load-carrying capacity N	ASTM D2670, ASTM D2625, ASTM D3233, ASTM D3704	Anti-Friction Coatings, Oils
Screw Tester	Electronic test device to determine tribological properties of lubricants at bolted connections (bolt, washer nut).	Coefficient of friction $\mu$ on head and thread	DIN 946	Pastes, Anti-Friction Coatings, Oils
SKF Emcor Tester	Test device for testing the corrosion preventing properties of lubricants.	Degree of corrosion	DIN 51802	Pastes, Greases
SRV Tester	A multifunctional test system to measure friction and wear under oscillatory or rotational motion.	Coefficient of friction $\mu$ , wear rate in mm	DIN 51834, ASTM D5706-7, DIN 50324	Greases, Pastes, Anti-Friction Coatings, Oils
VKA – Four Ball Machine	Machine for determination of wear properties and weld load of consistent lubricants in a four ball system (rotating ball on three fixed balls).	Welding load in N, wear scar in mm	DIN 51350	Greases, Pastes, Oils

## Physical Tests

Machine Test Equipment	Machine and Test Description	Test Result	Comply to Industrial Standard	Products That Can be Tested
Density Meter (Pycnometers)	This test method covers the determination of the specific gravity and density of semi-solid materials by use of a pycnometer.	g/ml	DIN 51 757, ASTM D70, ISO 3838	Greases, Pastes, Compounds, Oils
Dropping Point Apparatus	The dropping point is the temperature at which greases passes from a semi-solid to a liquid state under the conditions of test.	Dropping point temperature in °C or °F	ASTM D566, IP 132, ISO 2176, FTM 791-1421	Greases, Pastes, Compounds
Flow Pressure Apparatus (Kesternich Method)	The flow pressure is the pressure necessary to force a strand of lubricating grease out of a test nozzle.	Flow pressure in mbar	DIN 51 805	Greases
Infrared-Analysis Spectrometer (IR)	Infrared spectroscopy is a spectroscopic technique where molecular vibrations are analyzed. This permits qualitative analysis of lubricants.	IR-Spectra	DIN 51 820 T1	Greases, Pastes, Compounds, Oils
Oil Bleed & Evaporation Test Assembly	This test method is used to determine the tendency of lubricating grease to bleed and evaporate oil at an elevated temperature.	Oil bleed and evaporation in weight %	FTM 791-321-2, ASTM D6184	Greases, Pastes, Compounds
Oil Separation Test Assembly	The measuring of oil separation from a lubricating grease under the test conditions, has been shown to provide a useful guide to his behavior on storage in cans or drums.	Oil separation in weight %	DIN 51 817, IP 121/63	Greases, Pastes, Compounds
Oxidation Resistance Apparatus (Norma Hoffmann)	This test method determines resistance of lubricating greases to oxidation when stored statically in an oxygen atmosphere in a sealed system at an elevated temperature.	Pressure drop in bar	ASTM D942, DIN 51 808, IP 142, FTM 791 -3453, FTM 791-5314	Greases, Pastes, Compounds
Penetration Apparatus	Penetration serves as a measure of consistency to determine the plasticity of a wide range of materials.	Cone penetration in 1/10 mm	DIN 51 804 T2, ISO 2137, ASTM D1403-69	Greases, Pastes, Compounds
Rotational Viscometer	Determination of apparent dynamic viscosity of lubricating greases by rotational viscometer – cone and plate system.	mPas	DIN 51 810	Greases, Pastes, Compounds
Ubbelohde Viscometer	Determination of the kinematic viscosity of liquid petroleum products, both transparent and opaque, by measuring the time for a volume of liquid to flow under gravity through a calibrated glass capillary viscometer.	mm <sup>2</sup> /s = cSt	ASTM D445, ASTM D446, ASTM D2170, DIN 51 562	Oils

# Solutions and Services to Meet Your Needs



**As experts in industrial lubrication**, Dow Corning® and Molykote® can help you keep your equipment running at peak condition by improving reliability to reduce maintenance and downtime. Together with our distribution partners, local sales, technical support and consulting partners, we can provide you with the following Smart Lubrication Solutions.

- **Lubrication Consolidation and Optimisation:** Consolidating and optimising the correct lubricant purchases into a single, integrated program can reduce overall maintenance costs, extend oil change-out frequency and equipment life, and simplify the lubricant purchasing process.
- **Audit of Machinery Lubrication Best Practices:** An independent consultant visits your plant to help identify opportunities to improve plant operations by inspecting machines, sampling methods, filtration systems and oil storage facilities and by interviewing key plant personnel. We'll develop a comprehensive report and review it with your key plant personnel.
- **Onsite Seminar Training:** We offer a wide range of industrial lubrication seminars to meet the needs of industry professionals. Our training seminars include topics such as the fundamentals of machinery lubrication, best practices of lubrication and the importance of oil analysis; this includes how to take a representative sample and how to understand the results. These are also available as public events if you feel you would like to experience the training yourself before committing your team.
- **Compliance in Lubrication:** Compliance is a factor that affects Maintenance, not just Production. We can create procedures that document each stage of the maintenance task with trace-ability for audit purposes. This can be integrated into your existing lubrication management package, or we can offer advice on what you need for a total Lubrication Programme Design.

- **Lubrication Testing:** The Molykote Lubrication Testing Service saves time and money by performing a series of mechanical and physical tests to help to determine proper lubrication selection, identify performance standards and specifications, and establish a performance benchmark. This is open to all lubricants, not only those from Molykote.
- **Integrated Oil Analysis:** Optimise equipment protection with our integrated oil analysis program. It is designed to tell you exactly how your lubricants have aged, whether they be Molykote, Dow Corning or any other brand, and based on the results and your specific application requirements, precisely how to maintain them.
- **Analytical Testing:** Dow Corning's experience as a major chemical producer allows us to offer a wide variety of state of the art analytical testing procedures which may also be tailored to meet your individual needs.

## **Do you have another problem with a lubricant, lubrication, reliability, maintenance or mechanical efficiency?**

Contact Dow Corning and Molykote. We are good listeners and will give you a straight answer if we think we have some experience or capability in our Global organization and Network that can help you.

Don't think Lubricants, think **Smart Lubrication™**.

For more information, please contact your local sales representative or visit [www.molykote.com](http://www.molykote.com).

# Glossary of Terms

**Abrasion** – Mechanical wear during sliding of two surfaces against each other.

**Additives** – Substances added in small amounts to lubricants to improve the performance.

**Adhesion improvers/promoters** – Additives to oils and greases to improve adhesion (e.g. polyisobutene).

**Adhesive lubricants** – Lubricants with adhesion-improving components, which are not thrown off by centrifugal forces.

**Anti-Friction Coating** – The most common and widely used type of dry solid lubrication of today. This group includes both air-dried and heat-cured materials. These formulations usually consist of a lubricating solid called the “pigment” and a bonding agent. *See Binder*

**Ageing resistance** – The resistivity against ageing which might occur due to oxidation, overheating, the presence of certain metals like copper, lead, silver etc. The resistance to ageing can be improved by certain additives (antioxidants).

**ASTM** – American Society for Testing Materials.

**Auto-ignition point** – The temperature at which an oil ignites by itself, i.e. without the presence of a flame.

**Base oil** – Basic component of lubricating oils and greases.

**Binder** – An alternative term for non-volatile medium or vehicle and refers to the material which forms the varnish film and which in a paint or bonded coating binds the particles of solids (solid lubricants) together.

**Break away torque** – Effective leverage turned into rotating movement to loosen a bolted connection (highest torque before movement begins).

**Chemically inert** – (Lubricant) not reacting chemically with certain substances.

**Coefficient of friction** – Ratio of the frictional force between two surfaces sliding across one another to the force that is perpendicular to the surfaces.

**Colloid** – Small particles ( $10^{-5}$  to  $10^{-7}$  cm) in liquid which behave like a solution (no settling of particles).

**Complex greases** – Lubricating greases with thickeners produced from metallic soaps with various acids. Particularly suitable for high temperatures and long-term applications.

**Consistency** – A measure of the condition (hardness) of lubricating greases. It is measured as the unworked and worked penetration and is indicated in accordance with the NLGI (National Lubricating Grease Institute). To simplify designation of the consistency of lubricating greases, the consistency range as a whole is divided into nine classes, measured as worked penetration, e.g

Consistency Class	Worked Penetration (1/10 mm)
00	400-430
0	355-385
1	310-340
2	265-295

**Density** – The weight of a lubricant in grams per  $\text{cm}^3$  (ml) at  $20^\circ\text{C}$ .

**Detergent** – Agent for loosening and removing residues and deposits from sliding surfaces.

**Dispersion** – Name given to two-substance systems in which one substance is contained in the other substance (liquid) in a dispersed form.

**DN-value** – A guide to the grease which should be used in rolling-element bearings depending upon their speed of rotation. It represents the mean bearing diameter in mm multiplied by the speed in revolutions per minute.

**Drop point** – The drop point of a grease is that temperature at which grease passes from a semisolid to a liquid state. It is a qualitative indication of the heat resistance of a grease's thickener. The drop point temperature is determined when the first drop falls through the hole in the bottom of the cup during temperature increase.

**Dynamic viscosity** – A measure for inner friction during flowing of a lubricating oil (e.g. flowing through pipes or clearances).

# Glossary of Terms

**EP additives** – Chemical substances to improve the pressure absorption capacity and hence the wear resistance of oils and greases.

**Emcor** – The test for corrosion protection of lubricating greases in rolling-element bearings in the presence of water: A minimum of two grease-lubricated ball bearings run in water for about one week. The corrosion value of the rings ranges from 0-5 (0 = no corrosion, 5 = severe corrosion).

**Ester oils** – Compounds of acids and alcohols used for lubrication and the production of lubricating greases.

**Flash point** – The flash point is the lowest temperature at which, during heating, inflammable vapors are formed on the surface of the oil to be tested which shortly flare up in the presence of a flame.

**Fluoro-silicones** – Silicones which contain fluorine atoms in the molecule.

**Freezing point** – The freezing point of an oil is the temperature in degrees Celsius at which the oil has lost its ability to flow (i.e. during continuous cooling down). The solidifying of the oil is caused by the separation of paraffin crystals.

**Fretting corrosion** – Rust which occurs on seats. Better: frictional wear which occurs at fits and seats due to oscillating movements with very low amplitude and high frequencies. Usually, the very small iron wear particles react to rust in combination with oxygen, which finally results in seizing of the seats. Another disadvantage of fretting corrosion is the rapid material fatigue of the steel, a fact which can easily lead to breaking. (Fretting corrosion can be prevented most effectively by the separation of both metal partners, e.g. by means of solid lubricants.)

**Friction** – Resistance against sliding of two surfaces against one another.

**Grease** – 2-phase-system: thickener with fluid, lubricating medium.

**H1, H2, H3** – See *NSF*

**Inhibitors** – Additives for lubricants which reduce oxidation and by that ageing, red rust or corrosion.

**Lithium** – Alkalimetal, the hydroxide of which is used together with organic acids to form lithium soaps as thickener for greases.

**Lubricant** – Medium to reduce friction and wear between two surfaces sliding against one another.

**Measurement of viscosity** – Viscosities can be measured in various viscosimeters. The unit is mm<sup>2</sup>/s. An important factor for the measurement of the viscosity is the temperature, because the viscosity does significantly depend on the temperature. (Cold oils are more viscous, warm oils are less viscous.)

**Molybdenum disulphide (MoS<sub>2</sub>)** – A solid lubricant.

**NSF (National Sanitation Foundation)** – Organization that develops standards and provides product certification and education in the field of public health and safety.

**Category Code H1:** Lubricants with incidental food contact; must comply with 21 CFR 178.3570; can be used in food-processing environments where there is possibility of incidental food contact

**Category Code H2:** Lubricants with no food contact; can be used on equipment and machines parts in locations where there is no possibility of the contact between the lubricant and food

**Category Code H3:** Soluble oils

**Oil separation** – The “bleeding” of oil from lubricating greases during storage or as a result of mechanical/dynamic or temperature stress.

**O.K. load** – Indication of the pressure resistance of a lubricant. It is the very maximum load at which just no breakthrough of the lubricating film, and thus no welding of the test specimens, occurs (given in Newton [N]).

**Oxidation resistance** – Resistance of lubricants to reactions with oxygen.

**Pastes** – Combination of solid lubricants with oil for easy application of thin lubricating film.

# Glossary of Terms

**Penetration** – Indicates the softness or hardness of a grease. The depth of penetration of a standardized cone in a grease sample is measured. (The higher the penetration, the softer is the grease.)

**Pitting** – Crater-like metal cavities (i.e. in the pitch line of gear wheels), caused by material fatigue.

**Polyalpha-olefin** – Synthetic hydrocarbon with a defined molecular structure. Low-temperature, high-temperature and viscosity/temperature characteristics are better than with mineral oil.

**Pour point** – Lowest temperature at which a lubricating oil remains free-flowing.

**Pour point depressant** – An additive used to lower the pour point of a lubricating fluid.

**Running-in** – Surface asperities of new sliding surfaces are modified (smoothened) during the running-in period.

**Salt-water spray test** – The corrosion of steel is measured under the influence of saline fog. Sheet steel is coated with a lubricant and exposed to saline fog in a closed chamber. After the test, the number of hours are measured which have passed until a certain grade of corrosion was reached.

**Scoring** – Trench-shaped marks in metal, caused by machining or by scuffing.

**Scuffing** – Damage to material surface through inadequate supply of lubricant, or as a result of overloading. The lubricating film is broken.

**Self ignition point** – The temperature at which an oil ignites by itself i.e. without the presence of a flame.

**Service temperature range** – The range in which the lubricant meets requirements and an acceptable lubrication interval is achieved.

**Silicones** – Polymers with good temperature and oxidation resistance. Also used as high and low temperature lubricants.

**Soap in lubricating grease** – Combination of a fatty acid and a metal hydroxide. Through the proper selection of the fatty acid and the metal hydroxide (calcium, lithium, aluminum) the properties of the soap can be changed as to water resistance and temperature resistance.

**Solid lubricants** – Solid substances which are applied between sliding surfaces to reduce friction and wear and prevent scoring, cold welding and galling.

**Solvent** – A liquid which will dissolve a material and yield a homogeneous product.

**Specialty lubricants** – Lubricants with particular properties/ characteristics for special applications.

**Specific weight** – See *density*

**Stick-slip** – Stop-start relative movements of two sliding surfaces, caused by the difference in coefficient of friction between hydrodynamic and boundary lubrication.

**Stress cracks** – Cracks in materials (being subject to high stresses) caused by changes of the surface structure after penetration of undesirable elements.

**Suspension** – A uniform dispersion of the fine particles of a solid in a liquid which does not dissolve them.

**Swelling/Shrinkage** – Under the action of lubricants, vapours or gases, sealing materials made from rubber, elastomer, etc., can be negatively affected by swelling or shrinking.

**Synthetic oils** – In contrast to mineral oils, these oils are produced by chemical synthesis. Synthetic oils usually have a good viscosity/temperature behavior, low tendency to oxidize, deep freezing point, high temperature stability, and good chemical resistance.

**Tackifiers/Adhesion improvers** – Additives to oils and greases to improve adhesion (e.g. polyisobutene).

**Thickeners** – Thickeners usually are metal soaps (soap-thickened) but also organic or inorganic thickening agents (not soap-thickened as e.g. silica, bentone, urea, PTFE etc.).

# Glossary of Terms

**Tribology** – Science of scientific research and technical application of the relation between friction, wear and lubrication, including lubricants.

**Unworked penetration** – The consistency of a grease or paste in the state of rest, i.e. in the state of material as supplied.

**Viscosity** – The viscosity is the measure of the internal friction in a liquid or its resistance to flow.

**Water resistance of a grease** – The behavior of lubricating greases in the presence of water is of great importance for their applicability as anti-friction bearing greases. For this application, either a water-repellent (water-resistant) or a water-absorbent (emulsifiable) lubricating grease is required.

**Wear** – Caused by friction and direct contact between opposing surfaces after break-through of the lubricating film.

**Weld load** – The ability of a lubricant to absorb pressures/stresses, measured in Newton (N), the load at which the lubricating film breaks, during sliding of test specimens against each other, and at which both test specimens weld together.

**Worked penetration** – Under mechanical shear, lubricating greases often change their consistency. Therefore, it is more reasonable to indicate the worked penetration. It is the consistency of a worked grease.

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