

# \*OUPONT > MOLYKO

Smart Lubrication ™

## PASTES | OILS | COMPOUNDS | DISPERSIONS | ANTI-FRICTION COATINGS



### Anti-friction coatings for durable lubrication

- Service-life wear protection to minimize replacement and service costs
- Low coefficient of friction for fuel economy, emission reduction, reliability
- Reduce extraneous noise and vibration
- Resist dust and contamination





### Specialty lubricants for automotive applications

- Solutions to improve energy efficiency, safety, reliability, NVH, ride comfort, durability, environmental protection
- Performance for low- and high-temperature















## High-performance Smart Lubrication<sup>™</sup>

High-performance solutions for

anti-wear, noise reduction, temperature extremes

Enhanced efficiencies to meet

smart home technology, manufacturing automation, clean energy



## Specialty lubricants for industrial maintenance, repair & overhaul

- Specifically formulated for severe loads, extreme speeds, harsh environments, low and high temperatures
- Extend equipment life











#### ASSEMBLY AND MAINTENANCE GREASES





**Chain Drives** D-321R (AFC)

MKL-N

Guides & Tracks G-0052

P-1900

G-4500/4700 G-n Plus

1000

**Power Screw Drive** BR2-Plus 33L/33M

**Gears** G-Rapid Plus

(running-in) G-4500/4700

1122 P-40

**Control Cables** PG-75 33L/33M D-321R(AFC)





Bushings & Sleeves BR2-Plus P-40 P-1900



Connections 1000 Cu-7439 (Corrosive Envi.) Guides Multilub LT2 Plus

3402C (AFC)



Press Fits Bearings Key ways Pulleys Sleeves

Molykote G-n Plus Paste Prevents Fretting corrosion Easy disassembly

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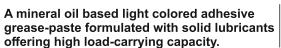
Smart Lubrication ™

## **Lubrication Solutions for Industrial Applications**



#### **CHUCK PASTE**

For VMC - CNC -MILLING LATHES



Sliding Surfaces exposed to High Pressure Loadings subject to Influence of emulsions especially for chucks on metal processing machines.

Cylinder head bolts



#### **Advantages**

- Particularly adhesive & Better gripping force Good corrosion protection
- Prevents stick slip

• Excellent protection against galling





### THREAD / ANTI -SIEZE PASTE - MOLYKOTE® 1000 / P 74

**CALENDERING BEARING APPLICATION** 

Mineral oil based paste formulated with solid lubricants such as copper, graphite, and white solids. Offering anti-seize properties and commonly used in bolted metal joints.

- Bolted joints that are subject to harsh environments
  Injection molding machines (nozzle head screws)
  - e head screws) Wind turbines

#### Advantages

- Wide temperature range 
   Suitable for corrosive environments
- High load-carrying capacity

   Allows for non-destructive dismantling





## Molykote® 5511 -Water tap Compound

**MOLYKOTE® G-5511 Compound** 

Silicone-oil based with a PTFE performance thickener Engineered for application in water taps between ceramic discs, rubber gaskets & plastic components for long term sealing & protection.

#### Advantages

- Molykote<sup>®</sup> G-5511 Water Tap Grease provides
- Better tackiness/adhesion properties
- Better coefficient of friction
- Certified NSF/ANSI 61
- Suitable for hot water (up to 85°C) & Cold water
- Excellent water resistance for use in Water Taps



## **MOLYKOTE® Lubricants for VALVE JOINTS**

Molykote® 111 Compound

Silicone-based compound with a huge lubricating and sealing power It is an excellent product for all types of joints and seals of plastic or elastomeric nature.

Molykote® 3452 Chemical Resistant Valve Grease Fluorosilicone based grease with PTFE thickened



#### **Advantages**

- It does not harden
- Highly resistant to water washing.
- Provides great sealing power.
- Supports vacuum conditions.



#### **Advantages**

- Chemical resistance
- Good load-carrying ability
- Effective in high temperatures
- Good plastic & rubber compatibility



## MOLYKOTE® HT Chain Oil (IN) - upto 230°C

Lubrication Solution for Textile Stenter, Paint Line drag Chain & Bakery Oven Chain

#### **Advantages**

- No carbon deposition
- Excellent High Temperature Stablility
- Low volatility & Longer life due to high oxidation Stability
- Considerably improved Viscosity Temperature behaviour compared with conventional chain oils.





Smart Lubrication ™

## ubrication Solutions for Industrial Applications



## MOLYKOTE® Longterm 00

In Cement segment -Girth gears



**NLGI Grade 00 Mineral Oil-Based Grease** with Lithium Thickener and Extreme Pressure (EP) additives for Incredibly High Loads.

MOLYKOTE® Longterm 00 Fluid Grease is well suited for gears and gear teeth that are subjected to high stresses, frictional corrosion & moisture.



- Extremely high load-carrying capacity
- Appropriate for mixed friction applications
- Anti-wear properties

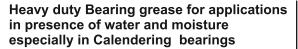
- Resistance to galling
- Highly adhesive
- Nickel and lead free





### **CORRUGATION**

**CALENDERING BEARING APPLICATION** 



Water processing Watergates and sluices Chemical industries (cooling, Condensing) Steel mills and mining Industry



#### Advantages

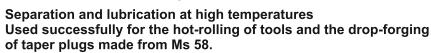
- **Excellent water resistance & Thermal Stability**
- Good corrosion-preventive properties
- Extreme pressure capability





### Lubricants for HOT FORGING

HTF -Dispersion & HTP PASTE





#### Advantages

- High load-carrying properties Wide temperature range Extends the service life of tools
- Formation of a separating lubricant layer between tool and machine
- The mineral oil content volatilizes at high temperatures without leaving any residue





## MOLYKOTE® SEPARATOR SPRAY

MOLYKOTE® separator spray is a silicone release agent and lubricant. The spray oil is designed to give excellent release and reduces friction and wear to plastic and rubber parts. The service temperature range is -40°C to +200°C.



#### Advantages

- **Excellent release properties**
- Lubricates plastic and rubber parts
- Provides better surface quality and easier cleaning Wide service temperature range





### MOLYKOTE® D-321 R SPRAY

Aerosolized version of MOLYKOTE® D-321 R Anti-Friction Coating is a solvent-based, air-cured dry film lubricant for metal on metal surfaces that experience slow to medium speed movements and high loads.



- Adjustment components for car mirrors
- Cylinder-head bolts
- High voltage switches
- Running-in for highly stressed gear wheel



#### Advantages

Stick slip prevention Aging resistance Air cured Provides excellent aging resistance. Suitable for high vacuum and extreme temperatures helps eliminate stick-slip occurrences





Smart Lubrication ™

## **Lubrication Solutions for Automotive Applications**

#### **Powertrain**

- Pistons
- Bearings
- Engine Fastener
- Starter Motors
- Air/fluid systems
- Dual-mass flywheel

#### **Interior**

- Seat adjustments
- Seat rails
- Door panels
- Safety seat belt
- Window lifter
- Consoles

## **Brake systems**

- Pedal boxes
- Booster
- Caliper pins
- Shims
- Brake pad additives
- E-parking brake





## Exterior

- Closure systems
- Sunroof systems
- Mirror adjustments
- Bolt & fastener
- Weather strips

#### **HVAC**

- Swash plate
- Pistons
- Fan clutches

### Chassis

- Steering ball joints
- Steering bearings
- Suspension joints
- Suspension bearings
- Wheel bearings
- Cables





## **Lubrication Solutions for Paint-shop**

Conveyer Chains + Over Head & Invert Trolley conveyers	
Equipment	Product
Chain Capstan (Oil Lubricated)	Molykote HT Chain Oil (IN) (Upto 230 Deg C)
Chain Capstan (Grease Lubricated)	Molykote G-6000 (Upto 160 Deg C)
Chain Links (Auto Lubricated)	Molykote HT Chain Oil (IN)
Drag Line Chains (Under Ground)	Molykote Multilub T (IN)
Guide Bar slides	Molykote HP500/HP870 (Upto 250 Deg C)
	Molykote Multilub T (IN) (Upto 130 Deg C)
Pulleys Guide roller bearings	Molykote G-6000 (Upto 160 Deg C)
	Molykote HP 500/HP870 (upto 250 Deg C)
Guide Bar Slides	Molykote Multilub T (IN) (Upto 130 Deg C) Or
	Molykote D-321 R (AFC)







## Challenges/Processes in Paint-shop

#### Application Criticalities

- High Temperatures
- Longer Life expectancy
- Non-Drip Lubricant
- Low evaporation rates
- Paint Compatible / Chemical resistant lubrication material
- Lubricant with high oxidation stability
- Cost Effective Material

#### Steps involved in paint line

- Pretreatment: Cleaning/Degreasing
- Pretreatment: Surface Preparation
- Electrocoat Anodic/cathodic Electrodeposition
- Sealer
- Primer
- Base Coat
- Clear coat/Top coat
- Baking Ovens

