



# MP-50™ MOLY PASTE

## DESCRIPTION

**MP-50™** Moly Paste is a non-melting, lubricating compound containing a high percentage of low-friction molybdenum disulfide (MoS<sub>2</sub>). Being a thick paste, it can be applied by brush or spatula. **MP-50™** has a performance range of -300°F (-185°C) to 750°F (400°C) for anti-seize applications. When employed in mechanical components not exposed to air, good lubrication results can be anticipated up to 2000°F (1090°C). Molybdenum Disulfide is nearly inert in operating conditions up to 600°F (315°C). If the grease vehicle should be squeezed out, disrupting normal lubrication, the moly disulfide remains to protect working surfaces. It assists in boundary lubrication by filling microscopic voids. **MP-50™** "plates" metal surfaces, reducing high points and increasing the load carrying area. It provides a low-friction shield to reduce bearing temperatures, protect working parts, prevent galling, seizure, stick-slip and heat-freeze. **MP-50™** adheres tenaciously to metal surfaces.

**MP-50™** may be applied directly to hot surfaces without running off or dripping. Conversely, it may be applied at temperatures as low as 0°F (-18°C). **MP-50™** is water resistant, withstands extreme weather elements, and helps prevent corrosion on parts exposed to water, steam, most acids and alkalis.

- Lead Free
- Prevents Corrosion
- Lowers Friction
- Contains high percentage MoS<sub>2</sub>
- Water Resistant
- Non-melting
- Prevents Stick-Slip

## APPLICATIONS

**MP-50™** is an extreme service lubricant designed to handle the toughest applications. The low pour point oil provides reduced torque when compared to low tech asphaltic or wax based lubricants in the extremes of winter. The non-melting, thick consistency also allows **MP-50™** to remain in place under extreme loads and elevated temperatures. Although expensive when compared to standard mandrel lubricants, **MP-50™** provides a real cost savings in extended mandrel life, better surfaces with fewer imperfections, tears, etc., thus reduced downtime and greater efficiency. **MP-50™** has been selected as the premier valve stem lubricant by many of the OEM valve manufacturers. In high pressure, multiple actuation tests **MP-50™** shows almost no loss in performance where other products result in higher and higher torques with each actuation. **MP-50™** is the only product specified in NAVSEA TMS S 9958-AA-MMA-100 Volume 10 Book 1 on Marotta control valves. Additionally, **MP-50™** is ideal for subsea riser, BOP, flange equipment and structural bolts, onshore and offshore. Based upon the extremes of the applications noted above, **MP-50™** is ideal for cam lubrication, assembly and subsequent dis-assembly of press and shrink fit pins, shafts, bushings, sprockets, gears, bearings. Highly loaded gears, open spur gears, marine transmission gears or any applications prone to scoring using normal lubricants should be prepressed with **MP-50™** before initial service.

## PRODUCT CHARACTERISTICS

Thickener	Organo Clay & MoS <sub>2</sub>
Fluid Type	Petroleum
Color/Appearance	Blue to Black Paste
Dropping Point (ASTM D-566)	None
Specific Gravity	1.40
Density (lbs/gal)	11.7
Oil Separation, Wt % Loss @ 212°F	<1.0
Flash Point (ASTM D-92)	> 430°F (221°C)
K-Factor*	0.105
High Chrome Alloys @ 60,000 PSI Contact Stress	
NLGI Grade	2½
Approx. Safe DN Limit	Suitable only for plain bearings
Penetration @ 77°F, (ASTM D-217) mm x 10 <sup>1</sup>	250 - 270
Copper Strip Corrosion (ASTM D-4048)	1A
4-Ball (ASTM D-2596)	250
Weld Point, kfg minimum	
Friction Coefficient	0.06
Service Rating	-300°F (-185°C) to 750°F (400°C)

\* (T = K x D x F) where T = torque, K = nut factor, sometimes called the friction factor, D = bolt diameter, and F = bolt tension generated during tightening. This expression is often called the short-form equation.