



LOCTITE[®] Moly Dry Film Lubricant

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PRODUCT DESCRIPTION

LOCTITE[®] Moly Dry Film Lubricant provides the following product characteristics:

Technology	Molybdenum-disulfide based
Appearance	Black
Appearance	No flaking when scratched with a blunt object ^{LMS}
Components	One component - requires no mixing
Cure	Non-curing
Application	Lubrication and Anti-seize
Specific Benefit	• High temperature • Heavy-duty static loads • Will not attract dirt or dust

LOCTITE[®] Moly Dry Film Lubricant is a molybdenum-disulfide based solid film lubricant. It is a heavy-duty lubricant used for general plant maintenance, metal working trade, machinery manufacturers and manufacturers of military and commercial jet engines. For continuous use in sliding friction, at temperatures from -29 °C to +400 °C. For anti-seize lubrication, LOCTITE[®] Moly Dry Film Lubricant functions from -29 °C to +1315 °C. Typical applications include **Maintenance** - threaded lubricant, dry bearing surfaces, slides, guides, pins, conveyor chains, exposed "dry" gears, flexible shafts, press fits, valve stems, shaft/package wear-in, "easy-off" coating for boiler exhaust surface deposits, power transmission couplings, **Production** - swaging, metal forming, cold extrusion, warm extrusion, cold and warm headings, "dry" lubricant for mechanical linkages, **Aerospace** - gas turbine engine blades, valves, bearings, vacuum and radiation applications, **Automotive, Heavy Equipment** - cam wear-in, brake mechanisms, cables, gear couplings, **Electrical** - circuit breakers, rheostats, switches, **Petro Chemical** - valves, boilers, flanges, dampers.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.3
Density @ 25 °C, g/ml	1.29
Solids/Non-Volatile Content, %	48 to 53 ^{LMS}
Weight Per Gallon, lbs/gal	10.5 to 11.1 ^{LMS}
Coverage, 0.018 mm Dry Film	55.7 m ² per 4.5 kg

Flash Point - See MSDS

TYPICAL CURING PERFORMANCE

Any of the following cure schedules will cause LOCTITE[®] Moly Dry Film Lubricant to thermoset, making it fluid and solvent resistant.

Cure Schedule

- @ 260 °C, 0.5 hours
- @ 232 °C, 1.0 hours
- @ 204 °C, 2.0 hours

Curing Properties

Drying Time @ 25 °C, minutes 60

TYPICAL PERFORMANCE

An anti-seize lubricant used on a bolt helps to develop greater clamp load for the same torque compared to an unlubricated bolt. An additional benefit is greater uniformity in clamp load among a series of bolts. The relationship between torque and clamp load is expressed in the following equation:

$$T = K \times F \times D$$

T = Torque (N·m, lb.in, lb.ft)

K = Torque coefficient or nut factor, determine experimentally

F = Clamp load (N, lb.)

D = Nominal diameter of bolt (mm, in.)

Torque coefficient, k:

12.7 mm steel bolts (grade 8) and nuts (grade 5)	0.06 to 0.12
12.7 mm steel bolts (grade 8) and nuts (grade 5), solvent cleaned, not lubricated	0.27

TYPICAL ENVIRONMENTAL RESISTANCE

Fluid Resistance

An air-dried film of LOCTITE[®] Moly Dry Film Lubricant can be softened and dissolved by organic solvents, oils, etc., but it will withstand water and water solutions. Oven cured films will not dissolve in most solvents and fluids.

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials

For safe handling information on this product, consult the Material Safety Data Sheet (MSDS).

Surface Treatments Compatible With Lubricant

Aluminum and Magnesium	Anodize coatings
Carbon Steel	Phosphate coatings
Stainless Steel	Passivated with acid and dichromate
Titanium	Phosphate fluoride treatment

Directions for use

1. May be applied by brushing, dipping or spraying directly to clean metal surfaces.
2. Prior surface treatments -- common metal protecting conversion coatings -- can be used to enhance corrosion resistance and wear life.

Loctite Material Specification^{LMS}

LMS dated December 22, 1999. Test reports for each batch are available for the indicated properties. LMS test reports include selected QC test parameters considered appropriate to specifications for customer use. Additionally, comprehensive controls are in place to assure product quality and consistency. Special customer specification requirements may be coordinated through Henkel Quality.

Trademark usage

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Reference **N/A**

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 8 °C to 21 °C. Storage below 8 °C or greater than 28 °C can adversely affect product properties. Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\mu\text{m} / 25.4 = \text{mil}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{MPa} \times 145 = \text{psi}$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

Note

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