



Everlube® Products

Surface Technologies Division

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Technical Data

Lube-Lok® 4396

MoS₂/Graphite, Solid Film Lubricants

Product Description	
Lube-Lok 4396 is a thermally cured, MoS ₂ /Graphite based solid film lubricant with a high molecular weight phenolic binder system. This coating provides an extremely low coefficient of friction, very good chemical resistance, good wear life properties and performs best over a wide range of loads. Specifications for this product can be found at: http://www.everlubeproducts.com/products .	
Features / Benefits	
<ul style="list-style-type: none"> • Excellent coefficient of friction • Very good chemical resistance 	<ul style="list-style-type: none"> • Good wear life • Good torque/tension properties
Markets	Typical Applications
<ul style="list-style-type: none"> • Aerospace/Defense • Mechanical Components • Industrial Machinery & Equipment • Fasteners 	<ul style="list-style-type: none"> • Slide valves, cylinders, pistons • Leaf springs, rocker arms, hinge pins • Gears, cams and followers • Sleeve and joint bearings
Physical Properties	
Lubricating Solids	MoS ₂ , Graphite
Binder	High Molecular-Weight Phenolic
Color and Appearance*	Matte Dark Gray Finish
Carrier	Solvent borne
Solids (by weight)*	29 to 33%
Density*	9.4 ± 0.5 lb/gal (1126 ± 60 grams/liter)
Flash Point	40°F (4.4°C)
Volatile Organic Compound	717 grams/liter (5.98 lb/gal)
Theoretical Coverage ¹	356 ft ² /gal @ mils (8.7 m ² /liter @ microns)
Alternative or Repair Coatings	A low VOC alternative coatings for Lube-Lok 4396 is our Everlube 9001. For touch-up applications, Perma-Slik RAC and Lubri-Bond A works well with Lube-Lok 4396.
Processing Information	
Dry Film Thickness	0.2 to 0.5 mils (5 to 13 microns)
Dilution / Cleanup Solvent	6600 solvent, 4000 solvent or 1,4 Dioxane
Dilution Ration (for spray)	1:1 to 1:3 (product to solvent by volume) Adjust as needed.
Cure Cycle	1 1/2 hr. @ 375 °F
Suggested Pretreatment	Grit Blast and/or Phosphate
Suggested Application Method	Spray
For additional information, please see Processing Bulletin #3000-A	
(Continued)	

Typical Functional Properties

	<u>ASTM Test Method</u>	<u>Value</u>
Corrosion Resistance		
Test Panel	ASTM B117	< 100 hrs. @ 5% Neutral Salt Spray
Test Panel Coating Method		0.8 mil on grit blasted steel panel
Abrasion Resistance	ASTM D4060	good
Coefficient of Friction	ASTM D2714	0.02 to 0.04
Operating Temperature Range		-300° to 450°F (-184 to 232°C)
Load Carrying Capacity	ASTM 2625, Method B	< 100,000 psi
Wear Life	ASTM 2714	> 300,000 cycles
Pencis Hardness	ASTM D-3363	4H+

Chemical Resistance (ASTM D-2510, Method C)

Isopropyl Alcohol or Ethyl Alcohol	Pass	Diethanolamine	Pass
Mineral Spirits or Paint Thinner	Pass	Hydrochloric Acid (10%)	Pass
Toluene	Pass	Sodium Hydroxide (10%)	Pass
Acetone	Pass	Distilled Water	Pass
Skydrol 500 (room temperature)	Pass	Jet Fuels (JP-4)	Pass
Hydraulic Fluids	Pass	Trichloroethylene	Pass
Anti-Icing Fluids	Pass	Weapon Lubricant, Mil-L-63460	Pass
Lubricant, Semi-Fluid, Mil-L-46000	Pass	Low Temp Weapon Lube Oil, Mil-L-1410	Pass
Silicone Based Damping Fluid, VV-D-1078	Pass	Substitute Ocean Water, ASTM D-1141	Pass
Trichlorotrifluoroethane, Mil-C-81302	Pass	Cleaning Compound, Mil-L-372	Pass

Note: Chemical resistance may vary depending on the cure cycle. N/R = Not recommended

Additional InformationShelf Life and Storage:

One year from date of shipment, stored in a factory sealed container between the temperatures, 40° to 90°F. Coatings are thermally stable, but we do not recommend prolonged exposure outside of the specified temperature range listed above.

Packaging:

Lube-Lok® 4396 is available in 5-Gallon Pail, Gallon, Quart

Warranty:

No representation or warranty is expressed or implied and all warranties including warranties of marketability and fitness for use are expressly disclaimed. Nothing herein shall be construed as permission or recommendation to practice a patented invention without a license.

* These tests are performed on each production lot

¹ Based on 100% transfer efficiency at a dry film thickness of 0.0005 inch (12.5 microns).

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