

Ecoalube® 642**MIL Spec, MoS2 Solid Film Lubricant****Product Description**

Ecoalube 642 is a thermally cured, MoS2 based solid film lubricant with a high molecular weight epoxy binder system. This coating provides excellent chemical resistance, wear life, abrasion resistance and performs best in higher load carrying applications. Ecoalube 642 is qualified to MIL-L-46010E Ty II, AS-5272 Ty II, and PWA 474. Additional specifications for this product can be found at: <http://www.everlubeproducts.com/products>

Features / Benefits

- Excellent wear life
- Excellent chemical resistance
- Excellent abrasion resistance
- Ideal for higher load carrying applications

Markets

- Aerospace/Defense
- Mechanical Components
- Chemical Processing
- Industrial Machinery & Equipment

Typical Applications

- Bushings, shafts, splines and cams
- Slides, guides and rails
- Virtually all fasteners
- Threaded connectors and disconnects

Physical Properties

Lubricating Solid:	MoS2
Binder:	High Molecular Weight Epoxy
Color and Appearance:*	Gray/Black Matte Finish
Carrier:	Solvent Borne
Solids (by weight):*	40% to 44%
Density:*	9.6 ± 0.5 lb/gal (1150 ± 60 grams/liter)
Flash Point:	24°F (-4°C)
Volatile Organic Compound:	695 grams/liter (5.8 lb/gal)
Theoretical Coverage: ¹	540 ft ² /gal @ 0.5 mils (13.2 m ² /liter @ 12.7 microns)
Alternative or Repair Coatings:	A low VOC alternative coating for Ecoalube 642 is our Everlube 9002. For touch-up applications, Perma-Slik G or Lubri-Bond 220 works well with Ecoalube 642.

Processing Information²

Dry Film Thickness	0.2 to 0.5 mils (5 to 13 microns)	
Dilution / Cleanup Solvent: ²	642 Solvent or 50/50 MEK/Toluene	
Dilution Ratio:	1:1 to 1:3 (Product to Solvent)	
Cure Cycle: ²	1 hr @ 400°F +/- 25°F	
Suggested Pretreatment:	Grit Blast and/or Phosphate	
Suggested Application Methods:	Dip Spin	<input checked="" type="checkbox"/>
	Spray	<input checked="" type="checkbox"/>

For additional information, please see Processing Bulletin # 3000-A

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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	Excellent
Coefficient of Friction	ASTM D2714	0.04 to 0.08
Operating Temperature Range		-365° to 500°F (-221° to 260°C)
Load Carrying Capacity*	ASTM 2625, Method B	> 250,000 psi
Wear Life*	ASTM 2625, Method A	> 450 minutes
Pencil Hardness	ASTM D3363	>4H (gouge)
Thermal Stability	ASTM D2511	Pass
Film Adhesion	ASTM D2510 Method A	Pass

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:	Pass	Jet Fuels (JP-4):	Pass
Hydraulic Fluids:	Pass	Trichloroethylene:	Pass
Anti-Icing Fluids:	Pass	Cleaning Compound ³	Pass
Trichlorofluoroethane ³	Pass	Reagent Water ³	Pass
Substitute Ocean Water ³	Pass	Turbine Fuel ³	Pass
Silicone Based Damping Fluid ³	Pass	Aircraft Lube Oil ³	Pass
Low Temp Weapon Lube Oil ³	Pass	Lubricant, Semi-Fluid ³	Pass
Weapons Lubricant, Cleaner & Preservative ³	Pass		

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

Additional Information

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

Packaging: Ecoalube® 642 is available in Gallon, 5-Gallon Pail, 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 Test are performed on each production lot.

¹ Based on 100% transfer efficiency at a dry film thickness of 0.001 inch (25 microns).

² Contact Technical Services for additional options.

³ Specific chemical tested per the specification requirements.

Issue Date: 08/19/02, Latest Revision Date: 10/16/03

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