### **Technical Data**

# Perma-Slik® GLF

## Air Dry, MoS<sub>2</sub> Solid Film Lubricant



Surface Technologies Division

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#### **Product Description**

Perma-Slik GLF is a lead free, air-drying; MoS<sub>2</sub> based solid film lubricant with an epoxy binder system. This coating provides a low coefficient of friction, good corrosion resistance, and performs best in higher load carrying applications. Perma-Slik GLF is qualified to Mil-PRF-46147D and also meets the requirements of SAE AS 1701 Class II and is ROHS compliant. Additional specifications for this product can be found at http://www.everlubeproducts.com/products.

#### Features / Benefits

- Lead Free Suitable for field applications
- Ideal for higher load carrying applications Good coefficient of friction

#### **Markets** Typical Applications

- Aerospace/defense Fittings and connectors
- Industrial machinery and equipment Guide, rails and tracks
- Mechanical components
- Bushings, shafts, splines and cams Fabricated metal parts Seals, clamps and couplings

#### **Physical Properties**

**Lubricating Solids:** MoS<sub>2</sub>

Binder: Epoxy

Color and Appearance:\* Gray/Black matte finish

Carrier: Solvent based Solids (by weight):\* 24% to 26%

Density:<sup>3</sup>  $8.15 \pm 0.5$  lb/gal (995  $\pm$  60 grams/liter)

Flash Point: 24°F (-4°C)

737 grams/liter (6.15 lb/gal) Volatile Organic Compound:

286 ft<sup>2</sup>/gal@ 0.5 mils (7 m<sup>2</sup>/liter @ 12.7 microns) Theoretical Coverage:<sup>1</sup>

Alternative or Repair Coatings: Solvent based thermally cured equivalents for Perma-Slik GLF are our Everlube 620C, Ecoalube 643, and Everlube 731. The

water based thermally cured equivalent is Everlube 9002.

#### **Processing Information<sup>2</sup>**

Dry Film Thickness 0.3 to 0.6 mils (8 to 15 microns)

Dilution/Cleanup Solvent:2 MEK

Dilution Ratio: 1:1 to 1:2 (product to solvent)

Cure Cycle:<sup>2</sup> 24 hr. @ 77°F ± 10°F Suggested Pretreatment: Grit blast and/or phosphate

Suggested application Methods: Dip spin, brush or spray

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

#### **Typical Functional Properties**

	ASTM Test Method	<u>Value</u>
Corrosion Resistance		
Test Panel	ASTM B-117	>100 hrs. @ 5% neutral salt spray
Test Panel Coating Method		0.8 mil on grit blasted steel panel
Abrasion Resistance	ASTM D-4060	Fair
Coefficient of Friction	ASTM D-2714	0.04 to 0.06

Operating Temperature Range		-100°F to 250°F (-73°C to 121°C)
Load Carrying Capacity	ASTM 2625, Method B	>250,000 psi
Wear Life	ASTM 2625, Method A	>120 minutes
Film Adhesion*	ASTM D2510, Method A	Pass
Sulfurous acid salt spray*	Fed-Std-791, Method 5331	Pass 4 cycles
Pencil Hardness*	ASTM D3363	>3H (gouge)

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	TT-S-735 Hydrocarbon Test Fluid <sup>3</sup>	Pass		
Mil-C-372 Cleaning Compound <sup>3</sup>	Pass	Mil-H-5606 Petroleum Hydraulic Fluid <sup>3</sup>	Pass		
Mil-L-22851 Lubricating Oil <sup>3</sup>	Pass	Mil-L-23699 Lubricating Oil <sup>3</sup>	Pass		
W-D-1078 Silicone Damping Fluid <sup>3</sup>	Pass	Mil-L-3056 Gasoline <sup>3</sup>	Pass		
Mil-L-6082 Lubricating Oil, GD.1100 <sup>3</sup>	Pass	Mil-L-7808 Aircraft Turbine Oil <sup>3</sup>	Pass		
Mil-L-4600 Lubricating Oil <sup>3</sup>	Pass		Pass		

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

### **Additional Information**

#### Shelf Life and Storage:

One year from date of shipment, stored in a factory sealed container between the temperatures, 40°F to 100°F. Coatings are thermally stable, but we do not recommend prolonged exposure outside of the specified temperature range listed above

Packaging: Perma-Slik GLF is available is gallon, 5-gallon pail, and 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.

Issue Date: 8/31/05 Rev: 4/12/10

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<sup>\*</sup> These tests are performed on each production lot

<sup>&</sup>lt;sup>1</sup> Based on 100% transfer efficiency at a dry film thickness of 0.0005 inch (12.5 microns).

<sup>&</sup>lt;sup>2</sup> Contact Technical Services for additional options

<sup>&</sup>lt;sup>3</sup> Specific chemicals tested per the specification requirements.