

## Technical Data

# Kal-Gard® FA

## Mil Spec MoS<sub>2</sub> Solid Film Lubricant

**CURTISS -  
WRIGHT**

Everlube® Products

Surface Technologies Division

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Product Description	
<p>Kal-Gard FA is a thermally cured, MoS<sub>2</sub> based solid film lubricant with a high molecular weight phenolic binder system. This coating provides excellent chemical resistance, wear life, and abrasion resistance. Kal-Gard FA performs best in higher load carrying applications. Specifications for Kal-Gard FA can be found at <a href="http://www.everlubeproducts.com/specifications.php">http://www.everlubeproducts.com/specifications.php</a>. When requesting pricing or ordering of product, listing of the specification and revision is required to assure product/certification compliance.</p>	
Features / Benefits	
<ul style="list-style-type: none"><li>• Excellent wear life</li><li>• Excellent chemical resistance</li></ul>	<ul style="list-style-type: none"><li>• Excellent abrasion resistance</li><li>• Ideal for higher load carrying applications</li></ul>
Markets	Typical Applications
<ul style="list-style-type: none"><li>• Aerospace/Defense</li><li>• Chemical Processing</li><li>• Mechanical components</li><li>• Industrial machinery</li></ul>	<ul style="list-style-type: none"><li>• Threaded connectors and disconnects</li><li>• Slides, guides, and rails</li><li>• Bushings, shafts, splines, and cams</li><li>• Virtually all types of fasteners</li></ul>
Physical Properties	
Lubricating Solids:	MoS <sub>2</sub>
Binder:	High molecular weight phenolic
Color and Appearance:*	Dark gray finish
Carrier:	Solvent borne
Solids (by weight):*	40% to 44%
Density:*	9.4 ± 0.5 lb/gal (1126 ± 60 grams/liter)
Flash Point:	16°F (-8.9°C)
Volatile Organic Compound:	695 grams/liter (5.8 lb/gal)
Theoretical Coverage: <sup>1</sup>	540 ft <sup>2</sup> /gal @ 0.5 mils (13.2 m <sup>2</sup> /liter @ 12.7 microns)
Alternative or Repair Coatings:	A low VOC alternative for Kal-Gard FA is our Everlube 9002. For touchup applications, Perma-Slik G or Lubri-Bond 220 works well with Kal-Gard FA
Processing Information	
Dry Film Thickness	0.2 to 0.5 mils (5 to 13 microns)
Dilution/Cleanup Solvent:	50/50 MEK/Toulene, 50/50 MEK/Ethyl Acetate, MEK
Dilution Ratio for Spray:	2:1 to 3:1 (Solvent:Product) by volume. Adjust as needed.
Cure Cycle:	1 hr. @ 302°F ± 27°F (150°C ± 15°C)
Suggested Pretreatment:	Grit blast and/or phosphate
Suggested application Methods:	Dip spin, spray, brush

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		0.5 mil on grit blasted steel panel
Abrasion Resistance	ASTM D-4060	Very good
Coefficient of Friction	ASTM D-2714	0.04 to 0.06
Operating Temperature Range		-100°F to 300°F (-73°C to 149°C)
Load Carrying Capacity	ASTM 2625, Method B	>250,000 psi
Wear Life	ASTM 2625, Method A	>250 minutes
Film Adhesion	ASTM D-2510	Pass
Thermal Stability	ASTM D-2511	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 500B (room temperature)	Pass	Jet Fuels (JP-4)	Pass
Hydraulic Fluids	Pass	Trichloroethylene	Pass
Anti-Icing Fluids	Pass	1,1, 1 Trichloroethane, MIL-T-81533	Pass
Cleaning compound, MIL-	Pass	Trichlorotrifluoroethane, MIL-C-81302	Pass
Reagent Water, ASTM D-1193, Type III	Pass	Substitute Ocean Water, ASTM D-1141	Pass
Hydraulic Fluid, Synthetic Hydrocarbon	Pass	Aircraft Lube Oil, Synthetic Base, MIL-L-23699	Pass
Silicone based damping fluid W-D-1078	Pass	Low Temp Weapon Lube Oil, MIL-L-14107	Pass
Lubricant, Semi-Fluid, MIL-L-46000	Pass	Weapons Lubricant, MIL-L-63460	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: Kal-Gard® FA 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

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

Issue Date: 10/30/02, Latest Revision Date: 11/01/17