

Technical Data

Everlube® Products

U.S.A. 1-800-428-7802 · 1-770-261-4800
Europe 44 (0)1386 421444
www.everlubeproducts.com

Kal-Gard® AI

MoS₂/Graphite, Solid Film Lubricant

Product Description

Kal-Gard AI is a thermally cured, MoS₂/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

- Excellent coefficient of friction
- Excellent chemical resistance
- Lead Free
- Ideal for higher load carrying applications

Markets

- Industrial Machinery
- Mechanical Components
- Fabricated Metal Parts
- Chemical Processing

Typical Applications

- Bearings, gears, splines and cams
- Threaded connectors and disconnects
- Guides, slides and tracks
- Pivot joints and linkages

Physical Properties

Lubricating Solid:	MoS ₂
Binder:	High Molecular Weight Phenolic
Color and Appearance:*	Matt gray/black finish
Carrier:	Solvent Borne
Solids (by weight):*	30% to 34%
Density:*	8.8 ± 0.5 lb/gal (1054 ± 60 grams/liter)
Flash Point:	24°F (-4°C)
Volatile Organic Compound:	717 grams/liter (5.98 lb/gal)
Theoretical Coverage: ¹	353 ft ² /gal @ 0.5 mils (8.6 m ² /liter @ 12.7 microns)
Alternative or Repair Coatings:	For touch-up applications, our air drying Lubri-Bond A works well with Kal-Gard AI.

Processing Information²

Dry Film Thickness	0.2 to 0.7 mils (5 to 18 microns)
Dilution / Cleanup Solvent: ²	50:50 denatured ethanol:toluene, methyl ethyl ketone (MEK)
Dilution Ratio:	1:3 (Product to Solvent) by volume (for spray)
Cure Cycle: ²	300° F +/- 10° F @ 1 hr. +/- 15 min. at part metal temp.
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

This document is for technical reference only and is not intended for use in developing a specification. Specification writers should contact Technical Director of Research and Development. This information supplied is presented in good faith and has been derived from sources believed to be reliable. Since conditions of use are beyond our control, all risks are assumed by the user.

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 D4060	Good
Coefficient of Friction	ASTM D2714	.04 - .06
Operating Temperature Range		-100° to 400°F (-73° to 204°C)
Load Carrying Capacity	ASTM 2625, Method B	< 100,000 psi
Wear Life	ASTM 2625, Method A	> 120 minutes
Pencil Hardness	ASTM D-3363	>4H
Adhesion	ASTM D-2510 Method A	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 500:	Pass	Jet Fuels (JP-4):	Pass
Hydraulic Fluids:	Pass	Trichloroethylene:	Pass
Anti-Icing Fluids:	Pass	Std. Test Fluids (TT-S-735, Ty. II) ³	Pass
Aviation Gasoline (MIL-G-5572, Grade 115/145) ³	Pass	Hydraulic Fluids, Petroleum (MIL-H-5606)	Pass
Aircraft Piston Engine Oil (MIL-L-22851, Ty. II) ³	Pass	Oil, Aircraft Turbine Engine, (MIL-L-2369)	Pass
Non-Petroleum Hydraulic Fluid (MIL-H-8446) ³	Pass	Silicone Base Damping Fluid (VV-D-1078)	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° to 90°F. Coatings are thermally stable, but we do not recommend prolonged exposure outside of the specified temperature range listed above.

Packaging: Kal-Gard® Al 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 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: 03/14/03, Latest Revision Date: 10/16/03

This document is for technical reference only and is not intended for use in developing a specification. Specification writers should contact Technical Director of Research and Development. This information supplied is presented in good faith and has been derived from sources believed to be reliable. Since conditions of use are beyond our control, all risks are assumed by the user.