Technical Data

Kal-Gard® AI

MoS_2/Graphite, Solid Film Lubricant

Everlube® Products
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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 Solids:	MoS_2
Binder:	High molecular weight phenolic
Color and Appearance:*	Matte 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 Information

Dry Film Thickness	0.2 to 0.7 mils (5 to 18 microns)
Dilution/Cleanup Solvent:	50:50 denatured ethanol:toluene, methyl ethyl ketone (MEK)
Dilution Ratio for Spray:	1:3 (Product to Solvent) by volume (for spray)
Cure Cycle:	300° F +/- 10° F @ 1 hr. +/- 15 min. at part metal temp
Suggested Pretreatment:	Grit blast and/or phosphate
Suggested application Methods:	Dip spin, spray

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

(Continued)

Typical Functional Properties

	ASTM Test Method	Value
Corrosion Resistance		
Test Panel	ASTM B-117	<100 hrs. @ 5% neutral salt spray
Test Panel Coating Method		0.5 mil on grit blasted steel panel
Abrasion Resistance	ASTM D-4060	Good
Coefficient of Friction	ASTM D-2714	.04 to.06
Operating Temperature Range		-100°F to 400°F (-73°C 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	N/R	Jet Fuels (JP-4)	Pass
Hydraulic Fluids	Pass	Trichloroethylene	Pass
Anti-Icing Fluids	Pass	Std. Test Fluids (TT-S-735, Ty. II)	Pass
Aviation Gasoline (MIL-G-5572, Grade 115/145)	Pass	Hydraulic Fluids, Petroleum (MIL-H-5606	Pass
Aircraft Piston Engine Oil (MIL-L-22851, Ty. II)	Pass	Oil, Aircraft Turbine Engine, (MIL-L-2369	Pass
Non-Petroleum Hydraulic Fluid (MIL-H-8446)	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°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® AI 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).

Issue Date: 03/14/03, Latest Revision Date: 10/16/03