Technical Data

Lube-Lok® S22-TG

Graphite, Solid Film Lubricant



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Product Description

Lube-Lok S22-TG is a low energy cure, low VOC graphite based solid film lubricant with an inorganic binder system. This coating was specially developed for titanium, aluminum, and magnesium forming applications. Lube-Lok S22-TG helps to save energy and reduce tooling wear by reducing friction while improving heat transfer characteristics. This coating provides good wear life in medium load applications up to 40,000 psi.

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Features / Benefits	
Good wear life	 Easily cleaned from part after forming
 Excellent thermal stability 	 Excellent lubricant for forming operations
Markets	Typical Applications
 Industrial machinery 	 Super-plastic titanium forming
 Fasteners 	 Stamping lubricant
 Fabricated metal parts 	 Cold forging lubricant
 Mechanical components 	 Aluminum forming compound
Physical Properties	
Lubricating Solids:	Graphite

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Binder:	Inorganic		
Color and Appearance:*	Black/Gray finish		
Carrier:	Water borne		
Solids (by weight):*	20% to 24%		
Density:*	10.0 \pm 0.5 lb/gal (1200 \pm 60 grams/liter)		
Flash Point:	None (water based)		
Volatile Organic Compound:	0 grams/liter (0 lb/gal)		
Theoretical Coverage: ¹	210 ft ² /gal @ 0.5 mil (5.2 m ² /liter @12.7 microns)		
Alternative or repair coatings:	For touch-up applications, Perma-Slik RGAC works		

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Processing Information		
Dry Film Thickness	0.2 to 0.5 mils (5 to 13 microns)	
Dilution/Cleanup Solvent:	Deionized water	
Dilution Ratio:	Less than 10% by volume (recommended)	
Cure Cycle (for forming):	30-60 minutes @ 175°F ± 25°F (79°C ± 14°C)	
(other applications):	2 hours @ 175°F (66°C) then 2 hours @ 400°F (204°C)	
Suggested Pretreatment:	Grit blast	

Spray

For additional information, please see Processing Bulleting #3002

Suggested application Methods:

Lube-Lok S22-TG Page 2

Typical Functional Properties					
	ASTM Test Method	<u>Value</u>			
Corrosion Resistance					
Test Panel	ASTM B-117	<48 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	0.02 to 0.04			
Operating Temperature Range		-100°F to 1200°F (-73°C to 650°C)			
Load carrying capacity	ASTM D-2625, Method B	<40,000 psi			
Wear Life	ASTM D-2625, Method A	<60 minutes			

Chemical Resistance (ASTM D-2510, Method C)					
Isopropyl alcohol or ethyl alcohol	Pass	Diethanolamine	Pass		
Mineral spirits or paint thinner	Pass	Hydrochloric acid (10%)	N/R		
Toluene	Pass	Sodium Hydroxide (10%)	N/R		
Acetone	Pass	Distilled Water	N/R		
Skydrol 500	N/R	Jet Fuels (JP-4)	Pass		
Hydraulic Fluids	Pass	Trichloroethylene	Pass		
Anti-icing fluids	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 (4°C to 38°C). Coatings are thermally stable, but we do not recommend prolonged exposure outside of the specified temperature range listed above.

Packaging: Lube-Lok S22-TG is available in quarts, gallons, and 5-gallon pails

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.

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^{*} These tests are performed on each production lot

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