



#329

SOLID FILM LUBRICANT: HEAT CURE

SERIES L270

CONFORMS TO MIL-PRF-81329, QUALIFIED TO PWA 298

SANDSTROM
PRODUCTS COMPANY

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www.sandstromproducts.com**DESCRIPTION**

Sandstrom #329 is a single component, waterborne, inorganic heat-curing coating that may be applied to a wide variety of metals. It is intended for use on components that will operate in environments where properties of organic materials are not desired.

OUTSTANDING FEATURES/BENEFITS

- Provides lubrication
- Offers resistance to friction, wear, galling and seizing
- Exhibits excellent thermal stability
- VOC compliant
- LOX Compatible

SANDSTROM #329 CONTAINS NO LEAD.**NOTICE**

Before using this product, read all warnings, limitations and safety information printed on the product label, Safety Data Sheet (SDS), and Technical Data Sheet.

TYPICAL USES

- Extreme environments where temperature, radiation and vacuum preclude the use of conventional lubricants and organic solid film lubricants.
- In liquid oxygen systems, space vehicles, bearing assemblies and other equipment.

LIMITATIONS

- Do not use with oils or grease unless field use indicates need.
- Do not use on materials that may be adversely affected by a cure temperature of 300°F.

COMPOSITION AND PHYSICAL PROPERTIES

Net Weight per gallon[^] <i>ASTM D1475</i>	13.90 ± 0.5 lbs.	Vehicle	Sodium Silicate
Weight Solids[^] <i>ASTM D2369</i>	50 – 56%	Lubricating Pigment	Molybdenum Disulfide/Graphite
VOC	0 lbs./gallon (Theoretical)	Color	Matte Gray
Odor	Odorless	Thinner	See THINNING
Viscosity[^] <i>ASTM D562</i>	80 – 110 KU's @ 77°F	Drying Time	See BAKING
Shelf Life	1 year from date of shipment	Coverage Rate *	340 sq. ft./gal @ 1.0 mil DFT
Storage Conditions	40°F – 100°F	Dry Film Thickness	1.0 – 1.4 mils
Freeze/Thaw Stability	One cycle		
Flash Point	Nonflammable		

* Actual figures do not include spray loss. Also allow for surface irregularities and porosity, as well as material loss when mixing.

[^] Property tested with each production batch.

PERFORMANCE AND FUNCTIONAL PROPERTIES

Chemical/Fluid Resistance	Insoluble in solvents, conventional fuels & greases. Withstands LOX cleaning - LOX compatible.
Load Carry Capacity <i>ASTM D2625B</i>	2500 lbf.
Operating Temperature Range	-320°F to +750°F
Thermal Stability <i>ASTM D2511</i>	Withstands thermal shock from 750°F to LOX immersion with no signs of blistering, cracking, peeling, chipping, loss of adhesion or high temperature aging
Wear Life <i>ASTM D2625A</i>	60 – 80 minutes
Coefficient of Friction <i>ASTM D2625</i>	Static - .0788 Dynamic - .0349

IMPORTANT NOTICE TO BUYER / WARRANTY AND LIMITATIONS ON OUR LIABILITY

We warrant our products to be free of manufacturing defects and that they meet our current published physical properties and specifications. All information and suggestions presented are rendered gratis and are accurate to the best of our knowledge. They are based on technical data we believe to be reliable and are intended for use by persons having skill and "know-how" at their own discretion and risk. Prior to use, customers are cautioned to determine the suitability of our products for any given application through their own testing. **NO WARRANTY IS MADE, EXPRESS OR IMPLIED, REGARDING SUCH INFORMATION, THE DATA ON WHICH IT IS BASED OR THE RESULTS OBTAINED FROM ITS USE OR THAT OUR PRODUCT SHALL BE MERCHANTABLE OR FIT FOR ANY PARTICULAR PURPOSE. SUCH STATEMENTS ARE NOT INTENDED TO SUGGEST INFRINGEMENT OF ANY PATENT.** Since conditions of use of our products are beyond our control, all suggestions and statements are made without guarantee, warranty or other responsibility, express or implied, on our part. We assume no responsibility for results obtained, or damages incurred, from their use beyond replacing material proved to be defective or refunding the purchase price of such material at our option. Acceptance of delivery of our product means you have accepted the terms of this warranty, whether or not purchase orders or other documents state terms that vary from this warning. No seller is authorized to make any representations or warranty or assume any other liability on our behalf with any sales of our products. SANDSTROM PRODUCTS COMPANY

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COVERAGE

One gallon of this material will cover 340 sq. ft. with a dry film thickness of 0.001 inches. Coverage depends on method of application and other variables such as overspray and type of surface to be coated. Above coverage rates are based on 100% efficiency.

SURFACE PREPARATION

Surface needs to be degreased to achieve adhesion. Avoid touching the cleaned surface with fingers.

Application on Steel. Grit blast to a surface profile of 45-55 RA. Remove grit blast debris.

Call Sandstrom Technical Representative for information on preparing other metals.

STIRRING

IMPORTANT! THIS LUBRICANT CONTAINS HEAVY PIGMENTS WHICH SETTLE RAPIDLY. THEREFORE, IT SHOULD BE STIRRED THOROUGHLY BEFORE USE AND CONTINUOUSLY DURING APPLICATION.

THINNING

Thin as needed with deionized water.

APPLICATION

For Mil Spec work, follow all instructions in MIL-PRF-81329.

Apply #329 by conventional spraying, dipping or brushing.

BAKING

Flash off parts 30 minutes at 77°F ± 5°F and ≤70% relative humidity before placing in oven. Cure for 2 hours at 175°F, then 2 hours at 300°F.

IMPORTANT! The time begins when **the part** has reached the required temperature, NOT when it is placed in a Class A oven.

CLEANUP

It is imperative to clean up with water immediately, as the coating will cure rapidly. Once dried, the coating is very difficult to remove.

REMOVAL

In the event it is necessary to remove Sandstrom #329, physical removal is best (i.e.: grit blasting, sanding or grinding).

WARNINGS: Constant stirring is imperative for best results.

DANGER! USE WITH ADEQUATE VENTILATION.

IMPORTANT! DO NOT TOUCH CLEAN SURFACE WITH FINGERS - OIL FROM THE HANDS WILL INTERFERE WITH PROPER COATING ADHESION. Whenever possible, treat both contact surfaces (i.e., the shaft and the bearing).

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We warrant our products to be free of manufacturing defects and that they meet our current published physical properties and specifications. All information and suggestions presented are rendered gratis and are accurate to the best of our knowledge. They are based on technical data we believe to be reliable and are intended for use by persons having skill and "know-how" at their own discretion and risk. Prior to use, customers are cautioned to determine the suitability of our products for any given application through their own testing. NO WARRANTY IS MADE, EXPRESS OR IMPLIED, REGARDING SUCH INFORMATION, THE DATA ON WHICH IT IS BASED OR THE RESULTS OBTAINED FROM ITS USE OR THAT OUR PRODUCT SHALL BE MERCHANTABLE OR FIT FOR ANY PARTICULAR PURPOSE. SUCH STATEMENTS ARE NOT INTENDED TO SUGGEST INFRINGEMENT OF ANY PATENT. Since conditions of use of our products are beyond our control, all suggestions and statements are made without guarantee, warranty or other responsibility, express or implied, on our part. We assume no responsibility for results obtained, or damages incurred, from their use beyond replacing material proved to be defective or refunding the purchase price of such material at our option. Acceptance of delivery of our product means you have accepted the terms of this warranty, whether or not purchase orders or other documents state terms that vary from this warning. No seller is authorized to make any representations or warranty or assume any other liability on our behalf with any sales of our products. SANDSTROM PRODUCTS COMPANY

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