**GENERAL DESCRIPTION**

**SANDSTROM POXYLUBE® #859** Dry Film Lubricant is a single component Heat Cured waterbase coating formulated with molybdenum disulfide and/or PTFE to provide excellent lubrication, fluid resistance, and corrosion protection. This Heat Cured material prevents corrosion, galling, seizing and fretting.

Excellent Corrosion Protection, Low VOC and ease of application are its outstanding characteristics. **SANDSTROM POXYLUBE® #859 CONTAINS NO GRAPHITE.**

Once **SANDSTROM POXYLUBE® #859** has been applied to a properly prepared surface and cured, it is virtually unaffected by atmospheric and fretting corrosion, solvents, acids, oils and degreasers. **SANDSTROM POXYLUBE® #859** can be applied to all metallic and nonmetallic surfaces by spray or dip application.

Complete application instructions are on the reverse of this sheet.

**FEATURES/BENEFITS**
- Waterbase and low VOC
- Provides excellent lubrication
- Provides heavy duty service as an exterior protective coating for all metals including magnesium
- Offers resistance to chemical corrosion, solvents, abrasion, impact
- Exhibits good thermal stability

**COMPOSITION AND PHYSICAL PROPERTIES**

<table>
<thead>
<tr>
<th>WEIGHT PER GALLON</th>
<th>COLOR</th>
<th>SOLIDS CONTENT</th>
<th>VISCOSITY</th>
<th>OPERATING TEMP. RANGE</th>
<th>CORROSION PROTECTION</th>
<th>LUBRICATIVE PIGMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>(theoretical) 9.75 ± .25 lbs. (Gray)</td>
<td>Gray, Black, Desert Tan, Olive Drab and custom colors available</td>
<td>(By Weight) 41.0 ± 2.0% (Gray)</td>
<td>#2 Zahn 25 ± 5.0 seconds #2 spindle at 20 rpm 200 ± 100 cps</td>
<td>-320°F to +400°F</td>
<td>Surface preparation</td>
<td>Molybdenum Disulfide or PTFE (lubricative pigments dependent on colors)</td>
</tr>
</tbody>
</table>

**WEIGHT PER GALLON** *(theoretical)*
- 9.75 ± .25 lbs. (Gray)
- Other colors vary

**SOLIDS CONTENT** *(By Weight)*
- 41.0 ± 2.0% (Gray)
- Other colors vary

**VISCOSITY**
- #2 Zahn 25 ± 5.0 seconds
- #2 spindle at 20 rpm 200 ± 100 cps

**OPERATING TEMP. RANGE**
- -320°F to +400°F

**CORROSION PROTECTION**
- Grit blasted aluminum oxide
  - ASTM B117 at 0.5 mil 150 hours*
  - ASTM B117 at 1.5 mil 750 hours*
- MIL-A-8625 type 2
  - Aluminum ASTM B117 at 0.5 mil 2500 hours*

*Tests halted before failure

**FLUID RESISTANCE**
- MIL-PRF-46010G Table 1 test fluids
- ASTM D2510A Pass
- ASTM D2510C Pass
- MEK double rubs 200+ with no softening

**THERMAL STABILITY**
- ASTM D2511 Pass

**CURING SCHEDULE**
- 60 minutes @ 300°F or
- 25 minutes @ 350°F or
- 20 minutes @ 375°F or
- 15 minutes @ 400°F

**IMPORANT!** The cure time begins when the part has reached the cure temperature, NOT when it is placed in the oven. In cases of very thick metals, an extra hour may be required to bring the part up to the proper temperature. Thermocouples may be used to determine the true temperature of the metal.

It is IMPERATIVE to use a properly vented oven. (DIRECT VENT TO THE OUTSIDE).

**VEHICLE TYPE**
- Modified epoxy

**SHELF LIFE**
- 1 year from date of shipment

**VOC**
- (theoretical) 2.07 lbs/gal (248 g/L) minus water
- As supplied 0.87 lbs/gal (105 g/L)
NOTICE
Before using this product, read all warnings and safety information printed on the label, the Material Safety Data Sheet, and the Technical Info-Guide.

GENERAL
For maximum service, the APPLICATION INSTRUCTIONS MUST BE CLOSELY FOLLOWED. Use a forced draft oven for all curing operations.

COVERAGE
One gallon of this material will theoretically cover 960 sq.ft. with a dry film thickness of .0005 inches. Coverage depends upon methods 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
The following surface preparations are recommended for the individual metals listed in the Application Appendix of the military specification to develop maximum adhesion, wear life, and corrosion protection. Please contact Sandstrom Products Company for substitute surface preparations if recommended steps cannot be followed.

Application on steel. Preclean the steel surface with aliphatic naphtha or any other EPA compliant cleaner that sufficiently cleans surfaces to pass ASTM F22. Sandblast the surfaces with 180-220 grit aluminum oxide. Phosphate IAW MIL-DTL-16232 (weight should be 11-22 g/m²), type M, class 3 or type Z, class 3.

Application on stainless steels. Preclean the steel surface with aliphatic naphtha or any other EPA compliant cleaner that sufficiently cleans surfaces to pass ASTM F22. Sandblast the surfaces with 120 grit aluminum oxide. Passivate the surfaces with ASTM A967, types nitric 1, nitric 2 or nitric 3, as applicable.

Application on aluminum and aluminum alloys. Preclean the aluminum surface with aliphatic naphtha or any other EPA compliant cleaner that sufficiently cleans surfaces to pass ASTM F22. Sulfuric acid anodize IAW MIL-A-8625 and seal the surface.

Application on titanium and titanium alloys. Degrease the surfaces to be coated with aliphatic naphtha or any other EPA compliant cleaner that sufficiently cleans surfaces to pass ASTM F22. Sandblast the surface with 180-220 grit aluminum oxide and alkaline anodize.

Application on copper and copper alloys. Preclean the copper surface with aliphatic naphtha or any other EPA compliant cleaner that sufficiently cleans surfaces to pass ASTM F22. Sandblast the surfaces with 180-220 grit aluminum oxide. Form a black oxide finish on the surfaces.

IMPORTANT! AVOID TOUCHING THE SURFACES TO BE COATED WITH THE FINGERS - OIL FROM THE HANDS WILL INTERFERE WITH PROPER COATING. Whenever possible treat both contact surfaces (i.e., the shaft and the bearing).

STIRRING
IMPORTANT!
THIS LUBRICANT SHOULD BE STIRRED THOROUGHLY BEFORE USE AND CONTINUOUSLY DURING APPLICATION.

THINNING
Conventional spraying, use as supplied. Dipping: Not necessary, but can be reduced sparsely with deionized water that has been pH adjusted to greater than 11.0 with AMP-95.

APPLICATION
SANDSTROM POXYLUBE® #859 should be sprayed or dipped to the desired film thickness (usually .0003 to .0007 inches). Allow the surface to dry at least 30 minutes before baking at 77°F ± 5°F and ±70% relative humidity before baking. Lower temperatures and/or higher humidity may require a longer dry time to prevent film defects.

A flash cure at 150° - 160°F for 10 - 30 minutes is an acceptable alternative to the air drying method.

CURING
SANDSTROM POXYLUBE® #859 can be cured according to the following schedule: 60 minutes @ 300°F or 25 minutes @ 350°F or 20 minutes @ 375°F or 15 minutes @ 400°F.

BAKING 300°F (149°C) FOR ONE (1) HOUR in a forced draft oven will yield optimum corrosion protection.

IMPORTANT! The cure time begins when the part has reached the cure temperature, NOT when it is placed in the oven. In cases of very thick metals, an extra hour may be required to bring the part up to the proper temperature. Thermocouples may be used to determine the true temperature of the metal.

It is IMPERATIVE to use a properly vented oven. (DIRECT VENT TO THE OUTSIDE).

It is Important to keep the container of SANDSTROM POXYLUBE® #859 closed when not in use to avoid change in volume solids.

CLEANUP
Use soap and water before coating has dried. Acetone may be used for dried film before curing.

REMOVAL OF SANDSTROM POXYLUBE® #859
In the event it is necessary to remove SANDSTROM POXYLUBE® #859 physical removal is best (such as grit blasting, sanding or grinding).

*Strict compliance to the instructions given in Surface Preparation and Stirring and Curing is essential to obtain optimum results.

WARNINGS: Constant stirring is imperative for best results.