

### PRODUCT OVERVIEW

**Solaris®** is a low viscosity, clear and colorless liquid platinum cure silicone rubber compound designed for use in protecting of electronic components and other assemblies. It will protect components against shock, vibration, moisture, ozone, dust, chemicals and other environmental hazards.

**The optical clarity of Solaris® makes it suitable for potting solar cells** for maximum light transmission or electronic assemblies where component identification is necessary. For best results, use with Solaris® Bonding Primer®.

### TECHNICAL OVERVIEW

Mix Ratio: 1A : 1B by volume or weight

Mixed Viscosity, cps: 1,200 (ASTM D-2393)

Specific Gravity, g/cc: 0.99 (ASTM D-1475)

Specific Volume, cu. in./lb.: 28.1 (ASTM D-1475)

Pot Life: 240 minutes (73°F/23°C) (ASTM D-2471)

Cure time: 24 hrs (73°F/23°C)

Color: Clear

Shore A Hardness: 15 (ASTM D-2240)

Tensile Strength, psi: 180 (ASTM D-412)

100% Modulus, psi: 25 (ASTM D-412)

Elongation @ Break: 290% (ASTM D-412)

Die B Tear Strength, pli: N/A (ASTM D-624)

Shrinkage, in./in.: < .001 (ASTM D-2566)

Useful Temp. Range: -149°F to 400°F (-65°C to 205° C)

Dielectric Strength, volts/mil: 366 (ASTM D-149)

Dielectric Constant, 100 Hz: 2.78 (ASTM D-150)

Dissipation Factor, 100 Hz: 0.00 (ASTM D-150)

Volume Resistivity, ohms-cm: 3.16E+15 (ASTM D-257)

Thermal Conductivity: 0.18 (ASTM D-1461)

Refractive Index: 1.41 nm (ASTM D-1218)

\* All values measured after 7 days at 73°F/23°C

- Ultra-transparent Solaris® provides excellent UV resistance yet allows maximum transmission of light.
- Solaris® features a low viscosity which allows easy flow in and around complex shapes, providing excellent electrical insulation and shock resistance.
- Solaris® will cure in deep sections or enclosed assemblies without exotherm.
- Solaris® encapsulant contains no solvents and has no VOC's.
- The hydrolytic stability of Solaris® makes it suitable in high humidity environments and at elevated temperatures.

### PROCESSING RECOMMENDATIONS

**PREPARATION... Safety** – Use in a properly ventilated area (“room size” ventilation). Wear safety glasses, long sleeves and rubber gloves to minimize contamination risk. Wear vinyl gloves only. Latex gloves will inhibit the cure of the rubber.

**Store and use material at room temperature (73°F/23°C).** Storing material at warmer temperatures will reduce the usable shelf life of unused material. These products have a limited shelf life and should be used as soon as possible.

### FOR MAXIMUM ADHESION TO GLASS - USE SOLARIS® BONDING PRIMER...

**All glass surfaces must be clean before applying Solaris® Bonding Primer®**

**Glass surface preparation:**

**Step 1-** Wipe glass surfaces using Isopropyl Alcohol applied with lint-free paper towels. Let dry for 10 minutes.

**Step 2 -** Wipe the glass surfaces with ammonia-based glass cleaner applied with lint-free paper towels. Let dry for 10 minutes.

**Note:** Do not touch glass surface after cleaning,

**When glass surface is clean, apply one coat of Solaris® Bonding Primer® using a clean, dry paint brush and let dry for 10 minutes.** A hazy film will form on the glass surface. Wipe away film using a lint-free cloth until surface is clear.

**Apply a second coat of Solaris® Bonding Primer®, let dry for 10 minutes and wipe surface until clear.**

You are now ready to apply the Solaris® Silicone Encapsulant to the prepared glass surface.

## Safety First!

The Material Safety Data Sheet (MSDS) for this or any Smooth-On product should be read prior to use and is available upon request from Smooth-On. All Smooth-On products are safe to use if directions are read and followed carefully.

### Keep Out of Reach of Children

**Be careful** - Use only with adequate ventilation. Contact with skin and eyes may cause irritation. Flush eyes with soap and water for 15 minutes and seek immediate medical attention. Remove from skin with waterless hand cleaner followed by soap and water.

**IMPORTANT** - The information contained in this bulletin is considered accurate. However, no warranty is expressed or implied regarding the accuracy of the data, the results to be obtained from the use thereof, or that any such use will not infringe upon a patent. User shall determine the suitability of the product for the intended application and assume all risk and liability whatsoever in connection therewith.

## CURE INHIBITION...

Solaris® silicone rubber compound will cure in contact with most clean, dry surfaces. However, certain materials, such as butyl and chlorinated rubber, materials containing sulfur, amines, and non-platinum RTV silicone rubber compounds will cause cure inhibition and rubber will not cure.

If compatibility between the rubber and the surface is in question, a small-scale test is recommended. Inhibition has occurred if the rubber is gummy or uncured after the recommended cure time has passed.

**Because no two applications are quite the same, a small test application to determine suitability for your project is recommended if performance of this material is in question.**

## MEASURING & MIXING...

Before you begin, pre-mix Part B thoroughly. After dispensing required amounts of Parts A and B into mixing container (1A:1B by volume or weight), **mix thoroughly for 3 minutes** making sure that you scrape the sides and bottom of the mixing container several times. After mixing thoroughly for 3 minutes, empty the contents of your mixing container into a **second clean mixing container and mix again for another 2 to 3 minutes** before pouring. This technique is your best bet for successful mixing.

For best results, vacuum degassing is recommended to help eliminate any entrapped air. Subject mixture to 29" of mercury in a vacuum chamber until mixture rises, breaks and falls. Allow for 3 to 4 times volume expansion in mixing container. Be aware of pot life so that material does not set up in mixing container.

## POURING & CURING...

For best results, pour your mixture in a single spot at the lowest point of the containment field. Let the rubber seek its own level. **A uniform flow will help minimize entrapped air.**

**Curing** - Allow rubber to cure for 24 hours at room temperature (73°F/23°C) before demolding. Do not cure rubber where temperature is less than 65°F/18°C.



**Call Us Anytime With Questions About Your Application.**

**Toll-free: (800) 762-0744 Fax: (610) 252-6200**

The new [www.smooth-on.com](http://www.smooth-on.com) is loaded with information about mold making, casting and more.