

Smooth-Sil® 960

Shore 60A Hardness Platinum Silicone Rubber



www.smooth-on.com

PRODUCT OVERVIEW

Smooth-Sil® 960 is a Shore 60A platinum cure silicone rubber developed for a variety of industrial applications. Compared to other 60A platinum silicones, Smooth-Sil® 960 has a relatively low viscosity and is easy to mix, de-air and pour. Silicone cures in 16 hours with negligible shrinkage to a firm rubber with high tensile and tear strength.

Smooth-Sil® 960 offers good chemical and heat resistance, making this a good choice for production casting of resins and expanding foams. Because of its firmness, Smooth-Sil® 960 molds are also used for spin casting. It is also used for embedding and electrical applications.

Note: This product **will not** cure against surfaces containing sulfur, even when sealed.

TECHNICAL OVERVIEW

Mix Ratio: 100A : 10B by weight

Mixed Viscosity, cps: 30,000 (ASTM D-2393)

Specific Gravity, g/cc: 1.25 (ASTM D-1475)

Specific Volume, cu. in./lb.: 22.2 (ASTM D-1475)

Pot Life: 45 minutes (73°F/23°C) (ASTM D-2471)

Cure time: 16 hours (73°F/23°C)

Color: Green

Shore A Hardness: 60 (ASTM D-2240)

Tensile Strength, psi: 650 (ASTM D-412)

100% Modulus, psi: 280 (ASTM D-412)

Elongation @ Break: 270% (ASTM D-412)

Die B Tear Strength, pli: 110 (knotty) (ASTM D-624)

Shrinkage, in./in.: <.001 (est.)

Useful Temp. Range: -65°F to 450°F (-53°C to 232°C)

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

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). Warmer temperatures will drastically reduce working time and cure time. Storing material at warmer temperatures will also reduce the usable shelf life of unused material. These products have a limited shelf life and should be used as soon as possible.

Cure Inhibition - Addition cured silicone rubber may be inhibited by certain contaminants in or on the pattern to be molded resulting in tackiness at the pattern interface or a total lack of cure throughout the mold. Latex, sulfur clays, certain wood surfaces, newly cast polyester, epoxy, tin silicone rubber or urethane rubber may cause inhibition. If compatibility between the rubber and the surface is a concern, a small-scale test is recommended. Apply a small amount of rubber onto a non-critical area of the pattern. Inhibition has occurred if the rubber is gummy or uncured after the recommended cure time has passed. To prevent inhibition, one or more coatings of a clear acrylic lacquer applied to the model surface is usually effective. Allow any sealer to thoroughly dry before applying rubber.

Even with a sealer, Smooth-Sil® 960 will not cure against surfaces containing sulfur. If you are not sure if your clay contains sulfur, do a small compatibility test before using for an important project.

Applying A Release Agent - Although not usually necessary, a release agent will make demolding easier when casting into most

surfaces. Ease Release® 200 is a proven release agent for releasing silicone from silicone or other surfaces. Mann Ease Release® products are available from Smooth-On or your Smooth-On distributor. **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 A and Part B thoroughly. Mix ratio is 100A : 10B by weight. **Using a gram scale**, dispense required amounts of parts A and B into a mixing container and mix for 3 minutes. Scrape the sides and bottom of the container several times.

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 - Avoid contact with eyes. Silicone polymers are generally non-irritating to the eyes however a slight transient irritation is possible. Flush eyes with water for 15 minutes and seek medical attention. Remove from skin with waterless hand cleaner followed by soap and water. Children should not use this product without adult supervision.

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.

After mixing parts A and B, **vacuum degassing is recommended** to eliminate any entrapped air. Vacuum material for 2-3 minutes (29 inches of mercury), making sure that you leave enough room in container for product expansion.

POURING, CURING & PERFORMANCE...

Pouring - 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.** The liquid rubber should level off at least 1/2" (1.3 cm) over the highest point of the model surface.

Curing - Allow rubber to cure for 16 hours at room temperature (73°F/23°C) before demolding.

Heat Curing - Time to demold can be reduced with mild heat. **Example:** After pouring Smooth-Sil® 960 at room temperature, place the mold in a hot box or industrial oven at 140°F (60°C). This will reduce the demold time.

Note - time will vary depending on mold thickness.

Adding an appropriate amount of **Plat-Cat®** cure accelerator will also reduce demold time. The pot life and cure times can be extended using **Slo-Jo®** cure retarder. Do not cure rubber where temperature is less than 65°F/18°C.

Mold Performance & Storage - The physical life of the mold depends on how you use it (materials cast, frequency, etc.). Casting abrasive materials can quickly erode mold detail, while casting non-abrasive materials such as wax will not affect mold detail. Before storing, the mold should be cleaned with a soap solution and wiped fully dry. Two part (or more) molds should be assembled. Molds should be stored on a level surface in a cool, dry environment.



Call Us Anytime With Questions About Your Application.

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The new www.smooth-on.com is loaded with information about mold making, casting and more.