



Mold Max™ 15T & 27T

Translucent Condensation Cure Silicone Rubber Compounds

PRODUCT REVIEW

Mold Max™ 15T & 27T Silicones are translucent tin-cured silicone rubber compounds that have exceptional tear strength and working properties and library life. Mold Max™ 15T & 27T Silicones feature Smooth-On's exclusive "Libra" catalyst for long library life. They cure overnight and feature knotty tear propagation (if the rubber is torn, the tear quickly terminates in a "knot" reducing further mold damage). Mold Max™ 15T & 27T are translucent clear (no color) and can be used for making molds or creating special effects using Silc Pig silicone pigments.

Mold Max™ 15T & 27T Silicones will reproduce the finest detail and are suitable for a variety of industrial and art related applications including making molds for reproducing prototypes, furniture, sculpture and architectural elements.

Mold Max™ 15 & 27 Silicones can be thickened with THI-VEX™ II additive for brush-on applications.

Mold Max™ 15T & 27T silicones can be used to cast a variety of materials including wax, gypsum, low melt alloys/metals and urethane, epoxy or polyester resins (without using a release agent).

TECHNICAL REVIEW

	Shore A	Mix Ratio By Weight	Color	Specific Volume	Specific Gravity	Viscosity	Die B Tear Strength	Elongation At Break	Tensile Strength	100% Modulus	Shrinkage
Mold Max 15T	15	100A:10B	Translucent	25.6	1.08	20,000 cps	94 pli	600%	490 psi	35 psi	.002 in./in.
Mold Max 27T	27	100A:10B	Translucent	25.0	1.11	30,000 cps	110 pli	400%	575 psi	65 psi	.002 in./in.

~Pot Life: 45 – 55 Minutes ~Cure Time/Demold: 24 hrs. (optional: follow with postcure)

Useful Temperature Range: -65°F to 400°F (-19°C to 205°)	Dielectric Strength, volts/mil: >500
Dielectric Constant, 100 Hz: 3.4	Dissipation Factor, 100 Hz: 0.02
Volume Resistivity, ohms-cm: 9 x 10 ¹⁴	Thermal Conductivity: 0.21

PREPARATION TIPS

Applying A Sealer / Release Agent . . . Mold Max™ rubber may be inhibited by sulfur base clays resulting in tackiness at the pattern interface or a total lack of cure throughout the mold. 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, a "barrier coat" of clear acrylic lacquer sprayed directly onto the pattern is usually effective. Allow to thoroughly dry. Although not usually necessary, a release agent will make demolding easier when casting into or over most surfaces. Ease Release™ 200 is a proven release agent for making molds with silicone rubber and for releasing new silicone from cured silicone. 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 . . . Materials should be stored and used in a warm environment (72° F / 22°C). Store material where temperature does not exceed 75°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. Wear safety glasses, long sleeves and rubber gloves to minimize contamination risk. Before you begin, pre-mix Part A (base) thoroughly to re-disperse fillers that may have settled. After dispensing required amounts of Parts A and B into mixing container (100 parts A to 10 parts B by weight), **mix thoroughly for 3 minutes** making sure that you **scrape the sides and bottom of the mixing container several times**. 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

Mold 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 level up and over the model. **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 the mold to cure overnight (at least 16 hours) at room temperature (77°F/25°C) before demolding. **Post curing the mold an additional 4 - 5 hours at 125°F (51°C)** will eliminate any residual moisture and alcohol that is a by-product of the condensation reaction. This water and alcohol can inhibit the cure of some casting resins. Allow mold to cool to room temperature before using. Do not cure rubber where temperature is less than 65°F /18°C.

Thickening Mold Max™ 15T & 27T with THI-VEX™ thixotropic additive: For vertical surface application, *Mold Max™ 15T & 27T Silicones* can be thickened for brush-on application. Different viscosities can be attained by varying the amount of *THI-VEX™*.

THI-VEX™ is added as a percentage of Part A and must be thoroughly mixed with Parts A and B.

Part A	+	Part B Catalyst (Mix Well)	+	THI-VEX (% of Part A)	=	Consistency
100 Parts		10 Parts		1/2 Part (0.5%) (% of Part A)		Thick
100 Parts		10 Parts		1.0 Parts (1.0%) (% of Part A)		Thicker
100 Parts		10 Parts		2.0 Parts (2 %) (% of Part A)		Thickest

Apply a coat of rubber. Wait for rubber to become "tacky" before applying next coat. Final mold thickness should be at least 3/8" (1 cm). Allow rubber to cure overnight before applying support shell.

Decreasing demold time with Accel-T_m Silicone Cure Accelerator:

Important: Thoroughly Pre-mix Accel T with Part B before adding Part A. Be aware that the working time is drastically reduced with the addition of Accel T.

Accel-T _m added by weight To Part "B"	~Pot Life in minutes	~Demold time in hours
0.2%	20	3
0.6%	5	2
1.0%	3	1

Silicone Thinner will 1) lower mixed viscosity which means that the rubber will de-air faster when vacuuming and 2) lower the ultimate shore hardness (durometer) of cured silicone rubber. See the Silicone Thinner technical bulletin (available from Smooth-On or your Smooth-On Distributor) for full details.

*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. **Be careful.** Use only with adequate ventilation. Contact with skin and eyes may cause irritation. Flush eyes with 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.*

Tel: (800) 762-0744 Fax: (610) 252-6200 Website: www.smooth-on.com