



THE COMPLEAT SCULPTOR

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TECHNICAL INFORMATION SHEET - PlatSil® 71 SERIES -- RTV SILICONE RUBBERS

Description: PlatSil® 71 Series RTV silicone rubbers are two component, addition-cure, platinum-catalyzed, high tear strength, flexible mold compounds. A tough, knotty tear is characteristic of the 71 Series products making them especially valuable to the mold making industry. They are recommended for evaluation as mold materials for polyester, epoxy and polyurethane resins, as well as for waxes and many other materials. PlatSil® 71 Series silicones offer advantages over tin-catalyzed systems in certain applications because on curing they don't shrink, they don't produce alcohol (like tin-catalyzed silicones) which can inhibit urethane castings, and they can be heat accelerated to speed the cure.

PlatSil® 71 Series Highlights:

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| <p>FEATURES:</p> <ul style="list-style-type: none"> • Room temperature cured or heat accelerated • Easy mix ratio • Easy release properties • High tear strength • Good chemical resistance • Low or zero shrinkage • Range of hardness A40 to A10 | <p>BENEFITS:</p> <ul style="list-style-type: none"> • Easy to use, can be cured quickly • Less chance for error, use with dispensing machines • Save on release agents • Fewer prematurely torn molds • Longer mold life • Better dimensional reproduction • Match hardness to flexibility required |
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PHYSICAL PROPERTIES:

	PlatSil® 71-40	PlatSil® 71-35	PlatSil® 71-30	PlatSil® 71-20	PlatSil® 71-15	PlatSil® 71-10
Mix ratio, by weight	1A to 5B	1A to 10B	1A to 10B	1A to 1B	1A to 1B	1A to 10B
Hardness, Shore A	40	35	30	20	15	10
Pour time, minimum	60 min.	60 min.	60 min.	25 min.	15 min.	5 min.
Demold time @ 25oC (77oF)	24 hrs.	24 hrs.	24 hrs.	4 hrs.	4 hrs.	30 min.
Color	Hazy Transparent	Blue	Lt. Green	Lt. Purple	Blue-Green	Pink
Viscosity, mixed	25,000 cps.	35,000 cps.	25,000 cps.	12,000 cps.	15,000 cps.	3,500 cps.
Cu. inches/pound	25	24.7	24.7	24.7	24.7	26
Specific gravity	1.10	1.12	1.12	1.12	1.12	1.06
Shrinkage during cure	Nil	Nil	Nil	Nil	Nil	Nil

Mixing Instructions: Weigh Part B and Part A in proper ratio into a clean mixing container. Mix thoroughly, scraping sides and bottom of the container. To assure a bubble-free mold, deaerate the liquid rubber under vacuum at 28 to 29 inches of mercury until the mass of rubber rises and then collapses. Deaerate for additional 2 minutes. When vacuuming, use a mixing container 3 to 4 times larger than the mass of rubber. Do not attempt to vacuum fast setting 71-10. (Caution, PlatSil® 71-10 Part B and 71-20 Parts A and B require stirring before use.)

CAUTION: PlatSil® 71 Series cure faster at higher temperatures. To reach full hardness in the specified demold time, temperature should be above 77oF. At lower temperatures, 48 hours may be needed to reach full hardness. Curing below 65oF is not recommended. Contamination from amines, sulfur, tin compounds or some RTV silicone rubbers may inhibit surface cure. If in doubt, test compatability by pouring a small quantity of catalyzed material on the surface to be reproduced, allow to cure and observe for proper cure and release.

MODEL PREPARATION: Porous models such as wood or plaster should be sealed to prevent penetration of the rubber into the pores of the material. Wax, petroleum jelly, lacquer, paint and most other coatings are suitable sealers. The sealed or non-porous model and other materials that will contact the rubber may be sprayed or coated with a very light coat of release such as a 10% by weight solution of petroleum jelly warmed and dissolved in mineral spirits. Silicone-based release agents (such as Pol-Ease® 2300) are not to be used on surfaces which will contact the liquid PlatSil® product since inhibition and/or adhesion may occur. Porous models should be vented from beneath to prevent trapped air from causing bubbles in the rubber. PlatSil® 71 Series rubbers will bond to cured silicone rubbers unless a parting agent is used. In every case where there is any question about the compatibility between the rubber and the prepared model surface, a test cure should be made on an identical surface to determine that complete curing and good release are obtained.

Molds may be reinforced with a stretchy, open mesh nylon or dacron cloth. The fabric should not be too close to the mold surface or the weave of the cloth may show through to the face of the mold.

USING THE MOLD: No release agent is necessary for casting most materials in PlatSil® 71 Series molds, but for longer mold life with epoxy, polyurethane or polyester resins, a barrier coat or release agent is recommended (such as Pol-Ease® 2300). Properly cured PlatSil® 71 Series molds will last many years without deterioration.

SAFETY AND CLEANUP: The Material Safety Data Sheets for each product should be read before use. PlatSil® 71 Series rubbers are safe to use if directions are followed. Best method of cleanup is by wiping with disposable paper towels. If solvents must be used, xylene, toluene, trichloroethane, naphtha and denatured alcohol are suitable, but should be handled with respect for volatility and flammability hazards.

Accelerating Cure Speed: PlatSil® 71X can be mixed into Part B prior to adding Part A to accelerate gel time and cure. Weigh and add 71X to Part B and mix. Weigh and add Part A to the Part B/71X mixture and mix thoroughly. Pour over a properly prepared model as soon after mixing as possible. Tightly close containers after use. Demold when tack free. The addition of 1 part 71X per 100 parts of Part B decreases the gel time to ~1/3 the normal gel time. The addition of 2 parts decreases the normal gel time to ~1/4. The addition of 3 parts decreases the normal gel time to ~1/6. Remember, heat accelerates the cure; low temperatures slow the cure.

Retarding cure speed: PlatSil® 71R added to PlatSil® Part A prior to mixing with Part B will slow the cure yielding longer working time and longer demold time. Adding ~1% of 71R to the total mixed weight of PlatSil® A+B will roughly double the working time. Adding ~2% of 71R will triple working time. Do not use more than 4% as the system may not cure at all.

Thickening for Brush On: All PlatSil® 71 Series rubbers can be thickened with PlatThix liquid thickener or with Cab-O-Sil® for brushing on a skin mold. When brushing PlatSil® 71-15 or 71-20, subsequent coats must be applied to the previous layer within one hour to obtain best adhesion.

Thinning and softening with Silicone Fluid: The very low viscosity 100 cs. Silicone Fluid can be sparingly added to the mixed rubber to thin the mix with some loss of strength, hardness and cure speed as well. More than 10% fluid addition may exude from the cured rubber. A 5% addition to PlatSil® 71-30 will reduce hardness to approximately Shore A-22.

Barrier Coats: A barrier coat is a fast drying, lacquer-type primer sprayed into a silicone mold prior to pouring plastic. When dry, the liquid plastic cures against the barrier coat which comes out of the mold on the plastic resulting in a pre-primed part. Using a barrier coat may extend mold life.

STORAGE LIFE: Six months from date of shipment in unopened containers.

Disclaimer: The information in this bulletin and otherwise provided by Polytek is considered accurate. However, no warranty is expressed or implied regarding the accuracy of the data, the results to be obtained by the use thereof, or that any such use will not infringe any patent. The user shall determine the suitability of the product for the intended use and assumes all risk and liability whatsoever in connection therewith.

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