

Development Corp.

PlatSil® 71 Series

High-Tear Strength, Flexible, RTV Silicone Rubbers

DESCRIPTION: PlatSil® 71 Series RTV Silicone Rubbers are two-component, addition-cure, platinum-catalyzed, flexible mold compounds. The 71 Series products exhibit a tough, knotty tear, making them especially valuable to the mold making industry. They are excellent mold materials for casting polyester, epoxy and polyurethane resins, as well as for waxes and many other materials. PlatSil 71 Series products offer advantages over tin-catalyzed systems in certain applications because on curing they don't shrink and don't produce alcohol (like tin-catalyzed silicones), which can inhibit urethane castings.

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 should be lightly sprayed or coated with Pol-Ease® 2350 Release Agent, which functions as a sealer and a release agent. Allow the 2350 to dry before applying liquid rubber. *Do not use silicone-based release agents (i.e., Pol-Ease 2300) on surfaces that contact the liquid PlatSil since inhibition and/or adhesion may occur.* In every case where there is any question about the compatibility between the rubber and the prepared model surface, perform a test cure on an identical surface to determine that complete curing and good release are obtained.

PlatSil 71 Series rubbers bond to cured silicone rubbers unless a parting agent is used.

Porous models must be vented from beneath to prevent trapped air from causing bubbles in the rubber.

MIXING & CURING: Carefully weigh Part B then Part A in proper ratio into a clean mixing container. *Accurate weighing is essential to obtain the optimum physical properties from the cured rubber.* Mix thoroughly, scraping sides and bottom of the container. To assure a bubble-free mold, deaerate the liquid rub-

FEATURES & BENEFITS:

- Easy mix ratios; some 1:1 mixes available
- Room temperature cure or accelerate with heat
- Easy release properties -- save on release agents
- High tear strength -- fewer prematurely torn molds
- Good chemical resistance for longer mold life
- Low/zero shrinkage for dimensional reproduction
- Range of hardnesses from A10 to A40

ber under vacuum at 28-29 inches 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 volume of rubber. Do not attempt to vacuum fast setting 71-10. (Note: PlatSil 71-10 Part B and 71-20 Parts A and B require stirring before use.)

If reinforcement of the rubber is needed (i.e., in thin blanket molds), place stretchy, open-mesh nylon or dacron cloth into the uncured rubber. Be sure that the fabric is not too close to the mold surface or the weave of the cloth may show through to the face of the mold.

PlatSil 71 Series rubbers cure faster at higher temperatures. To reach full hardness in the specified demold time, temperature should be above 77°F. At lower temperatures, more time may be needed to reach full hardness. Curing below 65°F is not recommended.

CURE INHIBITION: *CAUTION! Contamination from amines, sulfur, tin compounds or some RTV silicone rubbers may inhibit surface cure.* If in doubt, test compatibility by pouring a small quantity of catalyzed material on the surface to be reproduced, allow to cure and observe for proper cure and release.

PHYSICAL PROPERTIES

	<u>71-10</u>	<u>71-11</u>	<u>71-20</u>	<u>71-30</u>	<u>71-35</u>	<u>71-40</u>
Mix ratio, by weight	1A:10B	1A:1B	1A:1B	1A:10B	1A:10B	1A:5B
Hardness, Shore A	10	10	20	30	35	40
Pour Time (min)	5	20	25	60	60	60
Demold Time (hr) @ 77°F	0.5	4	4	24	24	24
Color	Pink	Blue Green	Lt. Purple	Lt.Green	Blue	Hazy transparent
Mixed Viscosity (cP)	3,500	6,000	12,000	25,000	25,000	25,000
Specific Volume (in ³ /lb)	26	24.7	24.7	24.7	24.7	25
Specific Gravity	1.06	1.12	1.12	1.12	1.12	1.10
Shrinkage Upon Cure	Nil	Nil	Nil	Nil	Nil	Nil

PACKAGING					
Product	Unit Weight (lb)	Container Size		Net Weight (lb)	
		A	B	A	B
PlatSil® 71-11, 71-20 Mix Ratio 1A:1B	2.0	1 pt	1 pt	1.0	1.0
	16.0	1 gal	1 gal	8.0	8.0
	80	5 gal	5 gal	40	40
PlatSil® 71-35, 71-30, 71-10 Mix Ratio 1A:10B	1.0	4 oz	1 pt	0.1	0.9
	9.0	1 pt	1 gal	0.9	8.1
	44.0	½ gal	5 gal	4.0	40
	495	6 gal	55 gal	45	450
PlatSil® 71-40 Mix Ratio 1A:5B	9.8	1 qt	1 gal	1.7	8.1
	48.0	1 gal	5 gal	8.0	40
	528	2 x 6 gal	55 gal	88	440

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 (i.e., Pol-Ease 2300) is recommended. Properly cured PlatSil 71 Series molds last for years without deterioration.

ACCELERATING CURE SPEED: Accelerate the cure with heat or the addition of PlatSil 71/73X. Mix 71/73X with Part B prior to adding Part A. Weigh and add Part A to the accelerated Part B mixture and mix thoroughly. Pour over a properly prepared model as soon after mixing as possible. The addition of 1 part 71/73X 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. Experimentation on a small scale is recommended before making a larger mix. 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 slows the cure yielding longer working time and longer demold time. Adding ~1% of 71R to the total mixed weight of PlatSil A+B roughly doubles the working time. Adding ~2% of 71R triples working time. Do not use more than 4% as the system may not cure at all.

THICKENING FOR BRUSH ON: For brushing on a skin mold, thicken PlatSil 71 Series rubbers with PlatThix liquid thickener or with Cab-O-Sil®. When brushing PlatSil 71-11 or 71-20, apply subsequent coats to the previous layer within one hour to obtain best adhesion.

THINNING AND SOFTENING WITH SILICONE FLUID: The very low viscosity 50 cSt PolySil® Silicone Fluid can be added sparingly to the mixed rubber to thin the mix with some loss of strength, hardness and cure speed. More than 10% fluid addition may exude from the cured rubber. A 5% addition to PlatSil 71-30 will reduce hardness to approximately Shore A22.

BARRIER COAT: A barrier coat is a fast drying, lacquer-like primer that is sprayed into a silicone mold and allowed to dry prior to pouring plastic. The plastic cures against the barrier coat and comes out on the plastic casting resulting in a pre-primed part. Using a barrier coat may extend mold life.

SAFETY: Before use, read product labels and Material Safety Data Sheets. Follow safety precautions and directions. Avoid contact with mucous membranes and eyes. Best method of cleanup is by wiping with paper towels, then washing with soap and water. If solvents must be used, denatured ethanol is good, but handle with extreme caution owing to its flammability and health hazards.

STORAGE LIFE: At least six months in unopened containers stored at room temperature (60-90°F). Tightly reseal opened 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. Before using, the user shall determine the suitability of the product for the intended use and user assumes all risk and liability whatsoever in connection therewith.

ACCESSORIES
Pol-Ease® 2300 Release Agent 12-oz can, case of 12 cans
Pol-Ease® 2350 Release Agent 1 qt (1.5 lb), 5 gal (26 lb)
PlatThix For Thickening PlatSil® Rubbers 4 oz, 1 pt (1 lb)
Silicone Fluid 50 cSt Grade For Thinning PlatSil® Rubbers 1 qt (2 lb), 1 gal (8 lb), 5 gal (40 lb)
PlatSil® 71/73X Accelerator 4 oz, 1 pt (1 lb), 1 gal (8 lb)
PlatSil® 71R Retarder 4 oz, 1 pt (1 lb), 1 gal (8 lb), 5 gal (40 lb)
Barrier PF 1 qt (1.5 lb), 5 gal (35 lb)
Cab-O-Sil® 5 gal (2 lb), 1 bag (10 lb)