

Technical Bulletin | **Magikmold® P-500 Silicone Rubber Series**

DESCRIPTION

Magikmold® P-500 Series is a high-performing line of room-temperature curing (RTV), two-part, platinum-cure silicone rubbers designed for the manufacture of flexible molds.

PRODUCT OPTIONS | PHYSICAL PROPERTIES

Magikmold® Product	P-508	P-520	P-525	P-540T	P-545	P-560
Type	Platinum-cure (addition-cure)	Platinum-cure (addition-cure)	Platinum-cure (addition-cure)	Platinum-cure (addition-cure)	Platinum-cure (addition-cure)	Platinum-cure (addition-cure)
Mix Ratio by Weight	1 Part Catalyst : 1 Part Base	1 Part Catalyst : 1 Part Base	1 Part Catalyst : 1 Part Base	1 Part Catalyst : 10 Parts Base	1 Part Catalyst : 10 Parts Base	1 Part Catalyst : 10 Part Base
Shore Hardness	A8	A20	A25	A35 – A40	A45	A60
Pour Time	20 min.	5 min.	15 min.	90 min.	40 min.	45 min.
Demold Time @ 77°F	3-4 hr.	1 hr.	4 hr.	24 hr.	16 hr.	16 hr.
Cured Color	Translucent	Translucent Blue	Blue	Translucent	Green	Blue
Mixed Viscosity	2,400 cP	3,000 cP	3,400 cP	38,000 cP	30,000 cP	40,000 cP
Specific Volume	26.6 in ³ /lb	25.2 in ³ /lb	24.7 in ³ /lb	26.6 in ³ /lb	21.3 in ³ /lb	21.3 in ³ /lb
Specific Gravity	1.04	1.10	1.12	1.04	1.3	1.3
Tensile Strength	185 psi	230 psi	485 psi	438 psi	630 psi	700 psi
Elongation	781 %	460 %	440 %	296 %	600 %	275 %
Die B Tear Strength	35.4 pli	46 pli	165 pli	98.6 pli	150.0 pli	85.0 pli
Die T Tear Strength	11.8 pli	18 pli	39 pli	32.9 pli	75.0 pli	45.0 pli

MODEL PREPARATION

Porous models should be sealed to prevent the rubber from penetrating the surface. Porous models can be sealed with wax, petroleum jelly, PVA, lacquer or paint. Some surfaces (e.g., metals and glass) that contact the liquid rubber should be sprayed or brushed with a suitable release agent (e.g., Pol-Ease® 2500 Release Agent or Pol-Ease® 2350 Sealer & Release Agent). Pol-Ease® 2350 is both a sealer and release agent that must be allowed to dry before applying liquid rubber. Pol-Ease® 2500 is an aerosol spray that does not need to dry before applying liquid rubber. If there is any question about the release properties of this silicone rubber, perform a small test cure on an identical surface. Liquid silicone rubbers may bond to cured silicone rubbers unless a release agent, like the ones mentioned above, are applied. Do not use silicone-based release agents (e.g., Pol-Ease® 2300 Release Agent) on surfaces that contact liquid silicone rubbers since inhibition and/or adhesion may occur. Once sealed and positioned for mold making, vent porous models from beneath to allow trapped air to escape and to prevent air from migrating into the rubber.

CURE INHIBITION

Contamination from amines, sulfur, tin compounds, polyester resins, some paints and some silicone rubbers may inhibit surface cure of this product. Perform a test cure on an identical surface to determine that complete curing and good release are obtained.

MIXING & CURING

Ensure that the silicone rubber, surface and air temperatures are at room temperature and at least above 60°F during application and for the entire curing period. Read all product labels to determine the correct mix ratio and if the product requires stirring or shaking. Carefully weigh the Base and then the Catalyst 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 ensure a bubble-free mold, it may be necessary to deaerate the liquid rubber under vacuum at 28-29 inches mercury. If vacuum is used, mix Parts A and B in a mixing container three to four times larger than the volume of rubber and deaerate until the mass of rubber rises and then collapses and continue for an additional two minutes. Pour the rubber as soon as possible after mixing/vacuuuming for best flow and air bubble release.

At room temperature (~77°F), this rubber cures to full hardness in the specified demold time. At higher temperatures, they cure faster. At lower temperatures, more time may be needed to reach full hardness.

USING THE MOLD

Release agent is not necessary for casting most materials into Magikmold® P-500 Series molds, but for longer mold life with epoxy, polyurethane or polyester resins, a barrier coat or release agent (e.g., Pol-Ease® 2300 Release Agent or Pol-Ease® 2500 Release Agent) is recommended.

ACCESSORIES, SEALERS & RELEASE AGENTS

Accessories	Sealers & Release Agents
Polytek® PlatSil® 71/73 Part X Accelerator	Polytek® Pol-Ease® 2500 Release Agent – <i>Release silicone from pattern or silicone from silicone.</i>
Polytek® PlatSil® 71/73 Part R Retarder	ZIP™ ME-301S Pattern Release Mold Release – <i>Release silicone from pattern.</i>
Silicone Thixo - Thickener	Polytek® Pol-Ease® 2350 Sealer & Release Agent – <i>Release silicone from pattern or silicone from silicone.</i> <i>Must allow to dry.</i>
Fumed Silica	Polytek® PolyCoat Sealer & Release Agent – <i>Release silicone from pattern or apply to old silicone molds to rejuvenate.</i> <i>Must allow to dry.</i>
Silicone Color Pigments	Polytek® Poly PVA Solution (Green or Clear) – <i>Water-soluble sealer. Must allow to dry.</i>
Silicone Fluid	Polytek® Pol-Ease® 2300 Release Agent – <i>Release polyurethane plastic or rubber from silicone mold.</i>
Mixing Cups	Stoner E-236 Urethane Mold Release – <i>Release polyurethane plastic or rubber from silicone mold.</i>
d’Limonene – Natural Non-Toxic Cleaner/Solvent	Stoner E-202 Rocket Release <i>Paintable mold release.</i>

SHELF LIFE

This product will remain useful for six months from the date of shipment when stored in the original, unopened containers at room temperature (60-90°F).

CLEAN UP

Tools should be wiped clean before the rubber cures. Denatured ethanol is a good cleaning solvent, but it must be handled with extremely caution owing to its flammability and health hazards.

SAFETY

Before use, read products labels and Safety Data Sheets. Follow safety precautions and directions. Avoid contact with eyes and mucous membranes. Best method of cleanup is by wiping with paper towels and washing with waterless hand cleaner, then soap and water.

DISCLAIMER

The information in this bulletin and otherwise provided by Raw Material Suppliers 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.