

Technical Bulletin | **Magikmold® U-700 Urethane Rubber Series**

DESCRIPTION

Magikmold® U-700 Series is a high-performing line of room-temperature curing (RTV), two-part, urethane rubbers designed for the manufacture of flexible molds and parts.

All rubbers in this series are pourable, but can be thickened with Fumed Silica to make brush-on molds.

Plaster and some waxes can generally be cast into U-700 urethane molds without any release agent, but most concrete mixes and polyurethane resins require a suitable release agent.

PRODUCT OPTIONS | PHYSICAL PROPERTIES

Magikmold® Product	U-725	U-740	U-760	U-780
Type	Polyurethane	Polyurethane	Polyurethane	Polyurethane
Mix Ratio by Weight	1 Part A : 1 Part B	1 Part A : 1 Part B	1 Part A : 1 Part B	2 Part A : 1 Part B
Shore Hardness	A25	A40	A60	A80
Pour Time	20 min.	20 min.	10 min.	45 min.
Demold Time @ 77°F	16 hr.	16 hr.	16 hr.	16 hr.
Cured Color	Amber	Amber	Amber	Yellow
Mixed Viscosity	2,500 cP	2,500 cP	1,500 cP	7,000 cP
Specific Volume	27.5 in ³ /lb	27.5 in ³ /lb	27 in ³ /lb	26 in ³ /lb
Specific Gravity	1.01	1.01	1.05	1.07
Tensile Strength	200 psi	330 psi	500 psi	750 psi
Elongation	730 %	1,000 %	450 %	500 %
Die C Tear Strength	50 pli	75 pli	120 pli	120 pli

PREPARE THE ORIGINAL MODEL

Porous models should be sealed to prevent the rubber from penetrating the surface – common sealers include wax, petroleum jelly, PVA, lacquer and paint. Non-porous and properly sealed models/surfaces should then be coated with a suitable release agent, such as Stoner E-236 Urethane Mold Release. If there is any question about the compatibility between the liquid mold rubber and the prepared model surface, a test cure should be performed first.

Affix the model to a suitable baseboard. If the model is porous, vent it from beneath (e.g. drill a hole in the baseboard directly below the model) to allow trapped air to escape.

NOTE: Depending on the model, it may make more sense to affix the original model to a baseboard prior to applying sealer and /or release agent.

For poured blocks molds, construct a secure and leak-proof containment area around the model. If the containment area is porous, it must be sealed. Non-porous and properly-sealed materials should be coated with a suitable release agent, such as Stoner E-236 Urethane Mold Release.

MIX & CURE

Before use, be sure that Parts A and B are at room temperature (~73°F) and that all tools are ready. All mixing and curing should be done in room temperature conditions. Read all product labels to determine the correct mix ratio and if the product requires stirring or shaking. Carefully weigh out Part A and Part B 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.

Pour the rubber as soon as possible after mixing/vacuuming.

At room temperature (~73°F), this rubber cures to full hardness in the specified demold time. Final cure properties are obtained in about seven days, but molds may be used with care after curing for 24-48 hours. At higher temperatures, these systems cure faster. At lower temperatures, more time may be needed to reach full hardness (avoid working in temperatures below 60°F).

THICKENING FOR BRUSH-ON

Add Fumed Silica to mixed Parts A and B to thicken the liquid mix to a brushable consistency.

USING THE MOLD

Release agent is generally not necessary for casting plaster and many waxes in U-700 Series molds. For resin casting (e.g., Magikast® Fast Cast Resins), first spray the mold with a suitable release agent (e.g., Stoner E-236 Urethane Mold Release) and brush with a dry brush to ensure thorough coverage. For concrete casting, use a suitable form release – avoid solvent-containing release agents as they can cause the mold to shrink or swell.

Store Magikmold® U-700 molds in a cool, dry location out of direct sunlight. Store on a flat, non-porous surface. For brush-on molds, store them in their mold shells.

ACCESSORIES & RELEASE AGENTS

Accessories
Mixing Cups
Mixing Sticks
Release Agents
Stoner E-236 Urethane Mold Release

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. Use only with adequate ventilation. Contact with uncured products may cause eye, skin and respiratory irritation, and dermal and/or respiratory sensitization. Avoid contact with skin and eyes. If skin contact occurs, remove with waterless hand cleaner or alcohol, and then soap and water. In case of eye

contact, flush with water for 15 minutes and call physician. Magikmold® U-700 Series products are not to be used where food or body contact may occur and burn readily when ignited.

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.