

Technical Bulletin | **Magikast Fast Cast Resin Series**

Description

Magikast Fast Cast Resins are easy-to-use, room-temperature curing polyurethane plastics. These two-part plastics have simple 1A:1B mix ratios by weight and are fast-setting for quick turnaround of parts. Magikast plastics are a popular option for numerous artistic, hobby and craft, industrial, commercial, prop and display applications.

Physical Properties

Product	Magikast 70D-90S	Magikast 70D-180S	Magikast 70D-300S
Mix Ratio by Weight	1 Part A : 1 Part B	1 Part A : 1 Part B	1 Part A : 1 Part B
Shore Hardness	D70	D70	D70
Pot Life	90 sec.	180 sec.	300 sec.
Demold Time @ 77°F	15 - 30 min.	60 min.	60-120 min.
Cured Color	White	White	White
Mixed Viscosity	270 cP	220 cP	200 cP
Specific Volume	26.1 in ³ /lb	26.1 in ³ /lb	26.1 in ³ /lb
Specific Gravity	1.06	1.06	1.06
Tensile Strength	5,408 psi	5,297 psi	4,387 psi
Linear Shrinkage	0.0050 in/in	0.0010 in/in	Nil
Heat Deflection Temperature	186°F	176°F	164°F
Elongation	6.2%	6.6%	5.1%
Elastic Modulus	156,301 psi	151,257 psi	134,685
Flexural Modulus	180,901 psi	174,856 psi	157,356 psi
Flexural Strength	7,309 psi	6,987 psi	6,125 psi

Mold Preparation

These products reproduce minute detail from a mold or pattern but may stick or foam when poured on improperly prepared surfaces. A trial casting on a surface similar to the final mold should be made to avoid damaging a valuable mold. Polyethylene and silicone rubber molds (e.g., Magikmold® silicone rubber) do not require a release agent. When casting Magikast plastic in silicone molds, the use of an appropriate primer sprayed in the mold and allowed to dry before casting will result in a pre-primed cast part and will help additional paint adhere to the part. Latex, polyurethane rubber or metal molds must be dry and require a coat of a suitable release agent (e.g., Pol-Ease® 2300 Release Agent).

Mixing

Before use, be sure that Parts A and B are at room temperature (73°F) and that all tools are ready. Surface and air temperatures should be above 60°F during application and for the entire curing period.

Use metal or plastic mixing vessels and spatulas to avoid introducing moisture (paper or wood tools can introduce moisture). Measure equal volumes of A and B into a mixing container such as a polyethylene pail. Mix immediately, thoroughly scraping sides and bottom for one minute. Pour mix into mold cavity as quickly as possible.

Once the containers of Parts A and B are opened, they should be used or resealed tightly since atmospheric moisture contamination may cause foaming of the plastic. A dry gas product, such as Polytek® PolyPurge, can be sprayed into opened containers of Magikast plastics to displace moist air before resealing containers to extend shelf life.

Curing

Castings should be allowed to remain in the mold until thoroughly cured. Parts demolded too soon may be subject to deformation. Use of pre-warmed molds will hasten curing. Low temperatures will slow the cure and extend demold time. Thin castings or thin sections of castings will take longer to cure than thick castings or thick sections of castings.

Fillers

Fillers can be added to Magikast products to vary appearance, density and cost. It is imperative that any filler be thoroughly dried before mixing with resin. Fillers should be added after Part A and Part B are mixed.

Finishing

Magikast plastics yellow and chalk when exposed to sunlight and should be painted or sealed for exterior use. The adhesion of this coating should be checked carefully over a period of time to determine that it is satisfactory for the intended use. If all mold release is removed by detergent washing, most oil paints work well. An auto body primer sprayed onto the clean casting and allowed to cure for at least 24 hours can help paint adhere better. Magikast Resins can be easily drilled, sanded and machined.

Accessories, Sealers & Release Agents

Accessories
Polyurethane Dyes
Mixing Cups
d'Limonene – Natural Non-Toxic Cleaner/Solvent
Polytek® PolyPurge Aerosol Dry Gas

Sealers & Release Agents
Polytek® Pol-Ease® 2300 Release Agent – <i>Release polyurethane plastic from urethane or silicone mold.</i>
Polytek® PolyCoat Sealer & Release Agent – <i>Semi-permanent sealer and release agent.</i>
Polytek® Poly PVA Solution (Green or Clear) – <i>Water-soluble sealer. Must allow to dry.</i>

Shelf Life

For best results, store products in unopened containers at room temperature (60-90°F/15-32°C). Use products within six months.

Clean Up

Tools should be scraped clean before the plastic is hard. Denatured alcohol is a good cleaning solvent, but must be handled with extreme caution owing to its flammability and health hazards. Work surfaces can be coated with wax or release agent so that cured plastic can be easily removed.

Safety

Before use, read product labels and Safety Data Sheets. Follow safety precautions and directions. 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 then soap and water. In case of eye contact, flush with water for 15 minutes and call physician. Use only with adequate ventilation. Magikast plastics are not to be used where food or body contact may occur. Plastics burn readily when ignited. Care should be taken with sanding dust and other easily ignitable forms of these products.

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.