

Technical Bulletin | Magikast Casting Resin Series

DESCRIPTION

Magikast Casting 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.

PRODUCT OPTIONS | PHYSICAL PROPERTIES

Product	Magikast 70D-90S	Magikast 70D-180S	Magikast 70D-300S	Magikast Black	Magikast Clear
Mix Ratio by Weight	1 Part A : 1 Part B	1 Part A : 1 Part B	1 Part A : 1 Part B	1 Part A : 1 Part B	1 Part A : 1 Part B
Shore Hardness	D70	D70	D70	D70	D78
Pot Life	90 sec.	180 sec.	300 sec.	120 sec.	420 sec.
Demold Time @ 77°F	15 - 30 min.	60 min.	60 - 120 min.	15 min.	45 - 60 min.
Cured Color	White	White	White	Black	Clear
Mixed Viscosity	270 cP	220 cP	200 cP	200 cP	450 cP
Specific Volume	26.1 in ³ /lb	26.1 in ³ /lb	26.1 in ³ /lb	26.4 in ³ /lb	26.6 in ³ /lb
Specific Gravity	1.06	1.06	1.06	1.05	1.04
Tensile Strength	5,408 psi	5,297 psi	4,387 psi	3,500 psi	4,200 psi
Linear Shrinkage	0.0050 in/in	0.0010 in/in	Nil	0.01 in/in	0.005 in/in
Heat Deflection Temperature	186°F	176°F	164°F	195°F	140°F
Elongation	6.2%	6.6%	5.1%	6.0%	12%
Elastic Modulus	156,301 psi	151,257 psi	134,685 psi	76,000 psi	ND
Flexural Modulus	180,901 psi	174,856 psi	157,356 psi	121,000 psi	ND
Flexural Strength	7,309 psi	6,987 psi	6,125 psi	5,500 psi	7,020 psi

ND = Not Determined

PREPARE THE MOLD

Silicone rubber molds (e.g., Magikmold® silicone rubber) do not require a release agent when casting Magikast plastics. For pre-primed cast parts (to help adhere additional paint to the part), an appropriate primer can be sprayed in the silicone mold and allowed to dry before casting Magikast plastic. Latex, polyurethane rubber or metal molds must be dry and require a coat of a suitable release agent (e.g., Stoner E-236 Urethane Mold Release) before casting Magikast plastics. A trial casting on a surface similar to the final mold should be made to avoid damaging a valuable mold

MIXING

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. Polyurethane plastics are moisture sensitive; use metal or plastic mixing vessels and spatulas to help avoid the introduction of moisture (paper or wood tools can introduce moisture). Carefully weigh out proper amounts of A and B into a mixing container. Mix immediately, thoroughly scraping sides and bottom for approximately 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.

CURING

Castings should be allowed to remain in the mold until thoroughly cured. Parts demolded too soon may be subject to deformation. The use of pre-warmed molds will speed up the demold time. 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 will yellow and chalk when exposed to sunlight. Parts can be painted or sealed for exterior use, but should be checked periodically to determine suitability for the intended use. Most oil paints can be applied to Magikast parts; however, mold release used in the casting process must be thoroughly removed first. 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 & RELEASE AGENTS

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

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.