



***Polytek***<sup>®</sup>  
Development Corp.

**A LEADING MANUFACTURER OF:**

- Polyurethane Mold Making & Casting Rubbers
- Silicone Mold Making & Casting Rubbers
- Polyurethane Liquid Casting Plastics
- Casting Foams
- Latex & Alginate
- Thermoplastic Elastomers
- Release Agents & Sealers
- Adhesives
- Accessories & Tools

Visit [www.polytek.com](http://www.polytek.com)  
for the most up-to-date  
product offerings and  
specifications.

# TABLE OF CONTENTS

POLYURETHANE MOLD MAKING & CASTING RUBBERS ..... 2

SILICONE MOLD MAKING & CASTING RUBBERS ..... 11

POLYURETHANE LIQUID CASTING PLASTICS ..... 18

CASTING FOAMS ..... 29

LATEX & ALGINATE ..... 31

THERMOPLASTIC ELASTOMERS ..... 33

RELEASE AGENTS & SEALERS ..... 34

ADHESIVES ..... 36

ACCESSORIES & TOOLS ..... 37

## PRIMARY INDUSTRIES



CONCRETE



SCULPTURE & FOUNDRY



SPECIAL EFFECTS



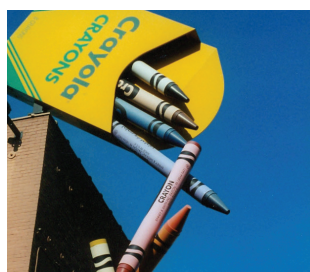
PROTOTYPING



ARCHITECTURAL  
REPRODUCTION &  
RESTORATION



MILLWORK &  
ORNAMENTATION



THEMING & DISPLAY



COMPOSITES & TOOLING

## ABOUT US

Started in 1984, Polytek® Development Corp. is a leading manufacturer of specialty polymers including polyurethane elastomers and casting resins, silicone, latex, plastisol, thermoplastic elastomers, and epoxies. These systems are used primarily in mold making and casting applications in industrial, construction, entertainment, fine arts and technology sectors.

Polytek®'s collective mission is to design and manufacture the highest-performance line of liquid rubbers and related casting products and to provide our customers with unmatched, industry-setting technical support and customer service. In doing so, we are committed to helping our customers realize the greatest value from the use of our products and resources. In the end, our success is defined by theirs.

### LOCATION

55 Hilton Street  
Easton, PA 18042

### PHONE

(800) 858-5990  
(610) 559-8620

### EMAIL

sales@polytek.com

### WEBSITE

www.polytek.com

**DISCLAIMER:** The information in this catalog and otherwise provided by Polytek® Development Corp. 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.



# POLYURETHANE MOLD MAKING & CASTING RUBBERS



## POLYURETHANE RUBBERS: INTRODUCTION

POLYTEK® MANUFACTURES A HIGH-QUALITY LINE OF TWO-PART, LIQUID POLYURETHANE RUBBERS THAT CAN BE Poured, BRUSHED OR SPRAYED TO MAKE MOLDS OR CASTINGS THAT CURE AT ROOM TEMPERATURE.

Polytek®'s polyurethane rubbers consist of a Part A and a Part B that, after mixing, cure at room temperature to flexible, high-strength rubbers. Polyurethane rubbers make durable molds for casting a variety of materials, including plaster, wax, concrete and resins. Release Agent is required for some casting media.

These systems are used across a wide variety of industries, including Precast Concrete, Prop Making & Special Effects, Sculpture & Foundry, Plaster Millwork and Ornamentation, Industrial

Applications, Theming & Scenic Design, Prototyping, various Craft & Hobby projects, and many more.

Polytek® Polyurethane Rubbers are divided into the following series:

- Poly 74-Series Liquid Mold Rubbers
- Poly 75-Series Liquid Mold Rubbers
- Polygel® Series Liquid Mold Rubbers
- FormRub Series Liquid Mold Rubbers
- Poly 81-Series Liquid Mold Rubbers
- Poly GlassRub 50 Liquid Mold Rubber
- Poly-Fast 72-40 Liquid Mold Rubber
- PT Flex Series Liquid Casting Rubbers
- Polyurethane Rubber Accessories - Page 10

# Poly 74-Series Liquid Mold Rubbers | Soft to Medium Hardness

Poly 74-Series polyurethane liquid mold rubbers are soft to mid-range hardness, high-performance, room-temperature curing systems. They offer superior flexibility and toughness allowing durable molds to be made from relatively simple to highly detailed, complex models.

These 74-Series liquid mold rubbers are supplied as pourable liquids but can be easily thickened to make brush-on molds.

Plaster and wax can generally be cast in polyurethane molds without any release agent, but most concrete mixes and casting resins require a suitable release agent (e.g., Pol-Ease® 2300 Release Agent).

## PRODUCT LINE FEATURES

- Type: Two-part polyurethane rubbers
- Room temperature curing (RTV)
- Shore A20 to A55 hardness options
- High-strength, abrasion-resistant, long lasting molds
- Reproduces fine details and textures
- Pourable or brushable (use PolyFiber II or Fumed Silica to thicken for brush-on application)
- Can be accelerated for rapid cure
- Economical & versatile

## Product Options

PRODUCT	MIX RATIO BY WEIGHT	SHORE HARDNESS	MIXED VISCOSITY	POUR TIME	DEMOLD TIME	CURED COLOR
Poly 74-20 <sup>^</sup>	1A:2B	A20	800 cP	20 min.	16 hr.	Yellow
Poly 74-24 <sup>^</sup>	1A:1B	A25	2,000 cP	20 min.	16 hr.	Amber
Poly 74-29 <sup>^</sup>	1A:1B	A30	2,800 cP	30 min.	16 hr.	Black or White
Poly 74-30 <sup>^</sup>	1A:1B	A30	2,000 cP	25–30 min.	16 hr.	Amber/Varies
Poly 74-30 HT <sup>^</sup>	1A:1B	A30	2,000 cP	25–30 min.	16 hr.	Amber/Varies
Poly 74-30 Clear <sup>^</sup>	1A:1B	A30	2,000 cP	25–30 min.	16 hr.	Transparent Amber
Poly 74-40 <sup>^</sup>	2A:1B	A40	3,400 cP	20 min.	16 hr.	Varies
Poly 74-41 <sup>^</sup>	1A:1B	A40	2,000 cP	20 min.	16 hr.	Amber/Varies
Poly 74-44 <sup>^</sup>	2A:1B	A45	3,500 cP	20 min.	16 hr.	Gray
Poly 74-45 <sup>^</sup>	1A:1B	A45	2,000 cP	30 min.	16 hr.	Yellow
Poly 74-55 <sup>^</sup>	4A:1B	A55	4,000 cP	15 min.	16 hr.	Amber

<sup>^</sup> **⚠️ WARNING:** This product can expose you to chemicals including Toluene diisocyanate (TDI), which is known to the State of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## CASTING MATERIALS

Poly 74-Series molds are most often used to cast:

- Concrete (release agent required)
- Plaster
- Wax
- Resin (release agent required)

## POPULAR APPLICATIONS

- Concrete Casting - Cast Stone Veneer, Form Liners, Texture Mats, Countertops, Site Furnishings & Décor, Hardscape, Architectural Precast
- Sculpture & Foundry
- Architectural Reproduction & Restoration
- Millwork & Ornamentation
- Candle Making
- Industrial Uses
- Crafts & Hobby
- Theming & Display



# Poly 75-Series Liquid Mold Rubbers | Medium to Hard Rubbers

Poly 75-Series polyurethane liquid mold rubbers are mid-range to firm hardness, high-performance, room-temperature curing systems. They offer superior strength, toughness and abrasion-resistance that result in durable molds that capture and reproduce exact textures and fine detail. Poly 75-Series rubbers offer an optimum blend of economy and performance.

Plaster and wax can generally be cast in polyurethane molds without any release agent, but most concrete mixes and casting resins require a suitable release agent (e.g., Pol-Ease® 2300 Release Agent).

## PRODUCT LINE FEATURES

- Type: Two-part polyurethane rubbers
- Room temperature curing (RTV)
- Shore A60 to A90 hardness options
- High-strength, abrasion-resistant, super-tough rubbers

## Product Options

PRODUCT	MIX RATIO BY WEIGHT	SHORE HARDNESS	MIXED VISCOSITY	POUR TIME	DEMOLD TIME	CURED COLOR
Poly 75-59^	1A:1B	A60	2,500 cP	10 min.	16 hr.	Amber
Poly 75-60^	1A:1B	A60	1,200 cP	10 min.	16 hr.	Amber
Poly 75-65^^	1A:1B	A65	3,000 cP	35 min.	16 hr.	Yellow
Poly 75-70^	1A:1B	A70	3,000 cP	40 min.	16 hr.	Gray
Poly 75-75^^	2A:1B	A75	4,000 cP	20 min.	16 hr.	Amber
Poly 75-79^^	2A:1B	A80	2,000 cP	20 min.	16 hr.	Yellow
Poly 75-80^^	2A:1B	A80	4,000 cP	45 min.	16 hr.	Yellow
Poly 75-90^	2A:1B	A90	6,000 cP	10–15 min.	16 hr.	Tan

^ **⚠️WARNING:** This product can expose you to chemicals including Toluene diisocyanate (TDI), which is known to the State of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

^^ **⚠️WARNING:** This product can expose you to chemicals including 4,4'-Methylene bis(2-chloroaniline) (MOCA) and toluene diisocyanate (TDI), which are known to the State of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

- Reproduces fine details and textures
- Pourable or brushable (use PolyFiber II or Fumed Silica to thicken for brush-on application)
- Can be accelerated for rapid cure
- Economical & versatile

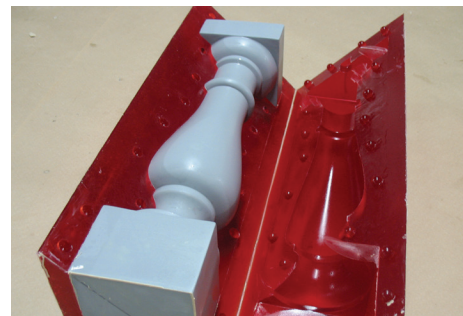
## CASTING MATERIALS

Poly 75-Series molds are most often used to cast:

- Concrete (release agent required)
- Plaster
- Wax
- Resin (release agent required)

## POPULAR APPLICATIONS

- Concrete Casting – Stamps & Texture Mats, Form Liners, Hardscape, Countertops, Architectural Precast
- Architectural Reproduction & Restoration
- Industrial Uses
- Theming & Display



# Polygel® Series Mold Rubbers | Brushable & Sprayable Rubbers

Polygel® Series mold rubbers are designed for brush-on and spray-on blanket molds as they self-thicken to a thixotropic consistency when low viscosity Parts A & B are mixed together. These room-temperature curing rubbers are non-sag and therefore especially useful for applications on vertical or overhead surfaces.

Sprayable Polygel® rubbers are ideal for large surface area applications where brushing is impractical. Sprayable systems can be applied using a low-cost, portable PlasPak spray gun and cartridges or with higher output spray systems.

Thin Polygel® blanket molds require a supportive mold shell. Mold shells can be made with a number of materials, including plaster, polyester resin and fiberglass and thickened polyurethane plastic. Polytek® offers strong, fast-setting polyurethane plastics that are widely used in mold shell construction. See recommendations on the next page.

**NOTE ON FOUNDRY WAXES:** Certain foundry waxes can cause excessive oiling in Polygel® rubbers; this is the case when liquid Polygel® is applied to the foundry wax and when the foundry wax is poured into cured Polygel® molds. Perform a small test cure to ensure compatibility.

## PRODUCT LINE FEATURES

- Type: Two-part polyurethane rubbers
- Room temperature curing (RTV)
- Self-thickening formulas
- Brushable and sprayable versions
- Easy one-to-one mix ratios by weight
- Reproduces fine detail
- Can be accelerated for rapid cure

## CASTING MATERIALS

Polygel® Series molds are most often used to cast:

- Concrete (release agent required)
- Plaster
- Wax (some foundry waxes can cause oiling in Polygel® rubbers)
- Resin (release agent required)

## POPULAR APPLICATIONS

- Sculpture & Foundry
- Concrete Casting
- Architectural Reproduction & Restoration
- Millwork & Ornamentation
- Theming & Display
- Prop Making



## BRUSHABLE POLYGEL® OPTIONS\*

### Polygel® 35 Brush-On Rubber^

\*All polyurethane mold rubbers can be made "brushable" with the addition of a thickening agent, such as PolyFiber II.

Polygel® 35 is a Shore A35, 1A:1B mix (by weight), self-thickening polyurethane liquid mold rubber designed for making thin, stretchy brush-on molds. This product has a 10 to 15-minute working time and a 16-hour demold time.

## SPRAYABLE POLYGEL® OPTIONS

### Polygel® Spray 35^

Sprayable version of Polygel® 35. Use with meter-mix spray equipment. This product has a 1A:1B mix ratio (by weight), Shore A35 hardness, 10-minute working time, and 16-hour demold time.

^ **⚠ WARNING:** This product can expose you to chemicals including Toluene diisocyanate (TDI), which is known to the State of California to cause cancer.

...continued from Polygel® Series

## MOLD SHELL OPTIONS

Thin blanket molds should be backed with rigid, supportive mold shells. Poly 1512X with PolyFiber II and Poly 1511, a slower-setting option, with PolyFiber II are popular brush-on polyurethane plastic options for making mold shells, while EasyFlo Spray FR is a popular sprayable option.

## PLASPAK SPRAY EQUIPMENT

PlasPak Spray Guns are available in 1A:1B and 1A:10B mix ratio options. These portable spray-gun and regulator kits are designed to spray 1A:1B or 1A:10B rubbers and plastics, like Polygel® Spray 35 and Polygel® Spray 50, and are ideal for small to moderate spray jobs. The spray gun accepts disposable cartridges and disposable static mixers, which are sold separately. The gun connects to a pressure regulator, which connects to house air (not to exceed 145 psi). No additional utilities required. For larger spray jobs, contact Polytek® customer service for details regarding higher output, less-portable spray systems.

## FormRub Series Liquid Mold Rubbers | Low Viscosity, 1A:1B Rubbers

FormRub Series liquid polyurethane rubbers are designed to make high-performance molds that stand up to the rigors of high-production casting and forming of concrete.

All FormRub product options have simple, 1A:1B mix ratios and are low-viscosity mixes that flow easily across detailed surfaces and models.

In addition to concrete, FormRub molds are often used to cast plaster and wax. With use of an appropriate release agent, some resins can also be cast in FormRub molds.

### PRODUCT LINE FEATURES

- Type: Two-part polyurethane rubbers
- Room temperature curing (RTV)
- Shore A35 to A65 hardness options
- Low viscosity
- 1A:1B mix ratios
- High-strength, abrasion-resistant, long-lasting molds
- Reproduces fine details and textures
- Pourable or brushable (add PolyFiber II or Fumed Silica for brush-on application)

- Can be accelerated for rapid cure
- Economical & versatile

### CASTING MATERIALS

FormRub Series molds are most often used to cast:

- Concrete (release agent required)

### POPULAR APPLICATIONS

- Concrete Casting – Countertops, Site Furnishings & Décor, Hardscape, Architectural Precast



## Product Options

PRODUCT	MIX RATIO BY WEIGHT	SHORE HARDNESS	MIXED VISCOSITY	POUR TIME	DEMOLD TIME	CURED COLOR
FormRub 35 <sup>^</sup>	1A:1B	A35	600 cP	15 min.	16 hr.	Turquoise
FormRub 50 <sup>^</sup>	1A:1B	A50	800 cP	15 min.	16 hr.	Orange
FormRub 60 <sup>^</sup>	1A:1B	A60	2,000 cP	22 min.	16 hr.	Off-White/Tan
FormRub 65 <sup>^</sup>	1A:1B	A65	1,500 cP	35 min.	16 hr.	Transparent Yellow/Amber

<sup>^</sup> **⚠️ WARNING:** This product can expose you to chemicals including Toluene diisocyanate (TDI), which is known to the State of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# Poly 81-Series Liquid Mold Rubbers | Very Hard Rubbers

Poly 81-Series polyurethane liquid rubbers are firm to very firm hardness, high-performance, room temperature curing systems offering superior strength and abrasion-resistance. They are the hardest polyurethane rubbers available from Polytek®.

## PRODUCT LINE FEATURES

- Type: Two-part polyurethane rubbers
- Room temperature curing (RTV)
- Shore A90 and D45 hardness options
- Firm, high-strength, abrasion-resistant rubbers
- Low-viscosity
- Reproduces fine details and textures
- Long-lasting, economical

## POPULAR APPLICATIONS

- Stamping Tools
- Industrial Parts
- Rollers
- Gaskets
- Bumpers or Pads
- Mold Facings
- Very Firm Molds

## Product Options

PRODUCT	MIX RATIO BY WEIGHT	SHORE HARDNESS	MIXED VISCOSITY	POUR TIME	DEMOLD TIME	CURED COLOR
Poly 81-90	100A:40B	A90	2,000 cP	23 min.	16 hr.	Yellow
Poly 81-D45	100A:20B	D45	1,600 cP	19 min.	16 hr.	Varies

# Poly-Fast 72-40 Liquid Mold Rubber | Liquid Thickener Option

Poly-Fast 72-40 is a medium hardness, room-temperature curing polyurethane mold rubber that can be poured as supplied or thickened with liquid Poly-Fast 72 Part D<sup>^</sup>, Fumed Silica or PolyFiber II. It can be softened with Poly-Fast 72 Part C<sup>^^</sup> to make rubbers softer than a Shore A10.

## PRODUCT LINE FEATURES

- Type: Two-part polyurethane rubber
- Room temperature curing (RTV)
- Shore A40 hardness
- Use with a liquid thickener for brush-on application

## CASTING MATERIALS

Poly-Fast 72-40 molds are most often used to cast:

- Plaster
- Wax

## POPULAR APPLICATIONS

- Sculpture & Foundry

**NOTE:** Cured molds may degrade with age and should not be considered for molds where long shelf life is required. For rubber options that will not soften with age, consider Poly 74-Series polyurethane mold rubbers.

## Product Options

PRODUCT	MIX RATIO BY WEIGHT	SHORE HARDNESS	MIXED VISCOSITY	POUR TIME	DEMOLD TIME	CURED COLOR
Poly-Fast 72-40 <sup>^^</sup>	1A:10B	A40	4,000 cP	30 min.	16 hr.	Ivory

<sup>^</sup> **⚠ WARNING:** This product can expose you to chemicals including Butyl benzyl phthalate (BBP), which is known to the State of California to cause reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

<sup>^^</sup> **⚠ WARNING:** This product can expose you to chemicals including Butyl benzyl phthalate (BBP) and Phenylmercuric compounds, which are known to the State of California to cause reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## PT Flex Liquid Casting Rubbers | Fast-Setting Rubbers

PT Flex Series liquid rubbers are polyurethane casting rubbers specifically designed for making prototypes, models and functional rubber parts. Unlike many other Polytek® polyurethane rubber products, these casting rubbers are very low in viscosity and are fast-setting so they can be demolded rapidly.

PT Flex rubbers can be cast in PlatSil® silicone molds without any release agent and can be cast in polyurethane rubber molds, polyurethane plastic molds and latex molds with the proper release agent (e.g., Pol-Ease® 2300 Release Agent).

### PRODUCT LINE FEATURES

- Type: Two-part polyurethane rubbers
- Room temperature curing (RTV)
- Shore A20 to D60 hardness options
- Rapid demold times
- Low-viscosity
- Easy 1A:1B mix ratios
- Low shrinkage on cure
- Can be colored with PolyColor Dyes

### POPULAR APPLICATIONS

- Prototyping
- Model Making
- Craft & Hobby
- Industrial Parts
- Prop Making
- Theming & Display

### Product Options

PRODUCT	MIX RATIO BY WEIGHT	SHORE HARDNESS	MIXED VISCOSITY	POUR TIME	DEMOLD TIME	CURED COLOR
PT Flex 20	1A:1B	A20	520 cP	4 min.	2 hr.	Tan
PT Flex 50	1A:1B	A50	450 cP	4 min.	2 hr.	Yellow/Amber
PT Flex 60	1A:1B	A60	600 cP	4 min.	2 hr.	Yellow/Amber
PT Flex 70	1A:1B	A70	700 cP	4 min.	2 hr.	Yellow/Amber
PT Flex 85	1A:1B	A85	750 cP	4 min.	2 hr.	Yellow/Amber



# Poly GlassRub 50 Liquid Rubber | Blue-Clear Rubber

**FOR MOLD MAKING:** Poly GlassRub 50 is a polyurethane rubber that is designed for making clear (blue-clear) molds that can be cut away from a master with less chance of damage and better seam positioning since objects are visible through the rubber. Poly GlassRub molds can be used to cast concrete (release agent required), plaster, wax and resin (release agent required).

**FOR CASTING:** In addition to mold making, GlassRub is often used to make decorative rubber castings and art, as well as for encapsulating objects for intriguing display applications. With the addition of PolyColor Dyes, GlassRub can be used to create transparent parts of any color. Poly GlassRub can be cast in PlatSil® silicone molds without any release agent and can be cast in polyurethane rubber molds, polyurethane plastic molds and latex molds with the

proper release agent (e.g., Pol-Ease® 2300 Release Agent).

## PRODUCT LINE FEATURES

- Type: Two-part polyurethane rubber
- Room temperature curing (RTV)
- Clear, glass-like appearance (pale blue)
- Reproduces fine detail
- 1A:1B mix ratio
- Low viscosity with excellent bubble release
- Long pour time

**NOTE:** Cured GlassRub may yellow slightly over time if exposed to UV light sources (e.g., fluorescent bulbs) and can be mixed with PolyColor dyes to help mask this effect.

## Product Options

PRODUCT	MIX RATIO BY WEIGHT	SHORE HARDNESS	MIXED VISCOSITY	POUR TIME	DEMOLD TIME	CURED COLOR
Poly GlassRub	1A:1B	A45-A50	1,000 cP	45 min.	16 hr.	Glass-Like/ Blue-Clear



## Polyurethane Mold Rubber Accessories

### ACCELERATOR

<p>Poly 74/75 Part X Accelerator</p>	<p>Add to liquid polyurethane rubbers to accelerate the pour time and demold time. Part X is most useful when making brush-on molds to decrease the time needed between coats. The amount of Part X needed varies from product to product and should be determined through experimentation.</p> <p><b>EXAMPLE:</b> By adding 3% Part X (by weight of the total mix) to Poly 74-30 or 74-29 Liquid Rubber, the working time is reduced to approximately 8 minutes. Demolding is possible in as little as 4 hours after the final layer is applied.</p>
--	---

### SOFTENER

<p>Poly 74/75 Part C Softener</p>	<p>Add to liquid polyurethane rubbers for a lower-viscosity mix and softer cured rubber.</p> <p><b>EXAMPLE:</b> To soften Poly 74-30 Liquid Rubber (Shore A30) to a Shore A15, mix 1A:1B:1C by weight.</p>
---------------------------------------	--

### MOLD CARE ACCESSORIES & PRODUCT LIFE EXTENDER

<p>Pol-Ease® Mold Dressing</p>	<p>A thin liquid that protects and rejuvenates polyurethane rubber molds that have been exposed to solvents, petroleum-based form releases, or harsh casting materials such as those that are porous and absorptive.</p>
<p>Pol-Ease® Mold Rinse</p>	<p>A liquid concentrate that reduces surface air bubbles on plaster castings made in Polytek® rubber molds.</p>
<p>PolyPurge Dry Aerosol Gas</p>	<p>Spray PolyPurge into open polyurethane Part A and B containers just before resealing to displace moist air and extend the product life.</p>

### COLOR DYES & UV ADDITIVE

<p>PolyColor Dyes</p>	<p>Oil-based dyes for coloring Polytek®'s polyurethane rubbers and plastics. Available in black, brown, blue, green, red, yellow, white and fleshtone. Add up to 0.5% PolyColor Dye to the total mixed weight of the rubber being used (exception: up to 2% of PolyColor White and PolyColor Fleshtone can be added to polyurethane rubbers and resins).</p>
<p>UV Additive</p>	<p>Add this liquid additive to polyurethane liquid rubber or plastic to improve exterior durability and reduce surface degradation caused by sunlight or other UV light sources. Add up to 0.5% of the total mix weight of the rubber.</p>

### FILLERS & THICKENERS

<p>PolyFiber II Thickening Agent</p>	<p>Add PolyFiber II to Polytek® liquid polyurethane rubbers to thicken for brush-on application or to make mold shells.</p>
<p>Fumed Silica</p>	<p>A fine powder that can be added to polyurethane liquid rubbers to thicken them for brush-on applications.</p>

### REINFORCEMENT MATERIALS

<p>Tietex® Fabric</p>	<p>A strong, conformable, reinforcing fabric often used to reinforce the top of a seam in brushed or sprayed molds or laid into the back of a poured mold to increase durability.</p>
-----------------------	---

Refer to the “Accessories & Tools” section of this catalog for additional accessories, including Tools & Mixing Equipment, Safety Equipment, Adhesives, Digital Scales, PlasPak Spray Equipment and Drum Handling Equipment. Refer to the “Release Agents & Sealers” section for release agents and sealers.

# SILICONE MOLD MAKING & CASTING RUBBERS



## SILICONE RUBBERS: INTRODUCTION

POLYTEK® MANUFACTURES A FULL RANGE OF TWO-PART, ROOM-TEMPERATURE CURING SILICONE RUBBERS THAT OFFER GREAT FLEXIBILITY, TEAR STRENGTH, CHEMICAL RESISTANCE AND RELEASE PROPERTIES.

Silicone molds can be used to cast a variety of materials, including polyurethane, polyester and epoxy resins, polyurethane foam, plaster, wax, concrete, low melting metals, and more.

Polytek® manufactures two different types of silicone rubbers: platinum-cured (PlatSil®) silicones and tin-cured (TinSil®) silicones.

Read about their differences below:

### PLATSIL® vs. TINSIL® SILICONE MOLD RUBBERS

- Cured TinSil® silicones have shorter library life (2 to 5 years total) compared to PlatSil® silicones.

- TinSil® silicones are slightly less expensive than PlatSil® silicones.
- Liquid PlatSil® silicones are more sensitive to certain materials (e.g., sulfur, tin compounds, Bondo) and suffer from cure inhibition (uncured surface material) more often than TinSil® silicones.
- Cured TinSil® molds can inhibit some casting materials, including PlatSil® silicones, Poly-Optic® Clear Casting Resin and many polyurethane rubbers.
- TinSil® silicones are condensation-cure systems that shrink slightly on cure (~1%) compared to addition-cure PlatSil® silicones, which do not shrink on cure.
- There are skin-safe platinum-cured silicones available in the PlatSil® product line: PlatSil® Gels.

*Silicone Rubber accessories can be found on page 17.*

## TinSil® Silicone Mold Rubbers | Condensation-Cure Silicones

TinSil® rubbers are tin-cured (also known as condensation cure), room-temperature curing silicones. Molds made from these rubbers exhibit high tear strength, good release properties, and resistance to high temperatures.

TinSil® molds can be used to cast a variety of materials, including wax, plaster and concrete, but the real advantage is obvious when casting polyurethane resins and foams, epoxy casting plastics, and polyester resins as release agents are not necessary.

### PRODUCT LINE FEATURES

- Type: Two part, tin-cured (condensation cure) silicone rubbers
- Room temperature curing (RTV)
- TinSil® molds do not require release agents when casting most materials
- Excellent chemical resistance
- Reproduces fine details and textures
- Cure can be accelerated or slowed with additives
- Ideal for the most demanding resin casting applications

...continued from TinSil® Silicone Mold Rubbers

- Pourable or brushable (thicken with TinThix Liquid Thickener or Fumed Silica for brush-on application)

### CASTING MATERIALS

TinSil® Series molds are most often used to cast:

- Resin (polyurethane, polyester, epoxy)
- Polyurethane foam
- Plaster
- Wax
- Concrete
- Low-Melt Metal (Use TinSil® 70-60)

**NOTE:** TinSil® molds have a limited shelf-life when cured (library life) so they are not recommended for extended storage. TinSil liquid rubbers also shrink slightly on cure (~1%). For silicone rubber options with longer library life and no shrink on cure, consider PlatSil® platinum-cured silicone rubbers.

**CURE INHIBITION:** TinSil® molds may cause cure inhibition in the following casting materials: polyurethane rubbers and Poly-Optic® 14-Series Casting Resins. This is especially the case in new tin-cured molds. Do not cast platinum-cured silicone in TinSil® molds; they will not cure properly. Consider a PlatSil® platinum silicone rubber when using these casting materials.

### POPULAR APPLICATIONS

- Sculpture & Foundry
- Architectural Reproduction & Restoration
- Foam, Plaster & Plastic Millwork & Ornamentation
- Theming & Display
- Candle Making
- Prototyping
- Model Making
- Taxidermy
- Prop Making

## Product Options

### TINSIL® 70-SERIES SILICONE RUBBERS

PRODUCT	MIX RATIO BY WEIGHT	SHORE HARDNESS	MIXED VISCOSITY	POUR TIME	DEMOLD TIME	CURED COLOR
TinSil® Gel-10 The translucency and flexibility of this product is very useful for animatronics and special effects.	1A:10B	A10	10,000 cP	45 min.	16 hr.	Translucent
TinSil® 70-11	1A:10B	A10	10,000 cP	45 min.	16 hr.	Blue
TinSil® 70-20	1A:10B	A20	10,000 cP	60 min.	16 hr.	Blue
TinSil® 70-25	1A:10B	A25	14,000 cP	60 min.	16 hr.	Blue
TinSil® Brush/Spray 25	1A:10B	A25	Thixotropic	30 min.	16-24 hr.	Translucent
TinSil® 70-60 Use this TinSil® rubber to cast low-melt metals (up to ~600°F).	5A:100B	A60	17,000 cP	30 min.	24 hr.	Red

### TINSIL® 80-SERIES SILICONE RUBBERS

80-Series rubber molds have longer library life and better high temperature stability compared to 70-Series rubbers.

**TinSil® 80-30 Silicone Rubber** has been tested by an independent laboratory and was found to comply with 21 CFR 177.2600 (as published in the Code of Federal Regulations) for rubber articles intended for repeated use food contact surfaces when accurately measured, thoroughly mixed, and fully cured.

PRODUCT	MIX RATIO BY WEIGHT	SHORE HARDNESS	MIXED VISCOSITY	POUR TIME	DEMOLD TIME	CURED COLOR
TinSil® 80-15	1A:10B	A15	12,000 cP	30 min.	24 hr.	Peach
TinSil® 80-30	1A:10B	A30	17,000 cP	45 min.	24 hr.	Peach
TinSil® 80-40	1A:10B	A40	20,000 cP	45 min.	24 hr.	Peach



# PlatSil® Silicone Mold Rubbers | Addition-Cure Silicones

PlatSil® rubbers are platinum-cured (also known as addition-cure), room temperature-curing silicones that cure to flexible, high-strength rubbers. PlatSil® molds offer excellent release properties and release agent is not necessary when casting most materials. Compared to tin-cured silicone rubbers, platinum-cured silicones exhibit long library life and low shrinkage on cure. *For skin-safe silicones, view PlatSil® Gels on page 16.*

## PRODUCT LINE FEATURES

- Type: Two-part platinum-cured (addition-cure) silicone rubbers
- Room temperature curing (RTV)
- Do not exhibit shrinkage upon curing so they are useful for casting dimensionally stable parts for highly accurate prototyping and model making applications
- PlatSil® molds do not require release agents when casting most materials
- Cured molds have a long library life
- Pourable or brushable (thicken with PlatThix liquid thickener or Fumed Silica)
- High-strength
- Excellent chemical resistance
- Reproduces fine details
- Cure can be accelerated or slowed with additives

## CASTING MATERIALS

PlatSil® Series molds are most often used to cast:

- Resin (polyurethane, polyester, epoxy)
- Polyurethane foam
- Plaster
- Wax
- Concrete

## POPULAR APPLICATIONS

- Sculpture & Foundry
- Architectural Reproduction & Restoration
- Foam, Plaster & Plastic Millwork & Ornamentation
- Theming & Display
- Prop Making
- Candle Making
- Prototyping
- Model Making
- Taxidermy

**CURE INHIBITION:** Care should be taken to ensure objects that come in contact with PlatSil® liquid rubbers are not contaminated with amines, sulfur, tin compounds and others which may inhibit the cure of the system.



## Product Options

### PLATSIL® 71 & 73-SERIES SILICONE RUBBERS

Standard, platinum-cured mold making and casting silicones.

**PlatSil® 73-45 Silicone Rubber** has been tested by an independent laboratory and was found to comply with 21 CFR 177.2600 (as published in the Code of Federal Regulations) for rubber articles intended for repeated use food contact surfaces when accurately measured, thoroughly mixed, and fully cured.

PRODUCT	MIX RATIO BY WEIGHT	SHORE HARDNESS	MIXED VISCOSITY	POUR TIME	DEMOLD TIME	CURED COLOR
PlatSil® 71-11	1A:1B	A10	6,000 cP	20 min.	4 hr.	Blue-Green
PlatSil® 73-15	1A:1B	A15	2,500 cP	20 min.	4–5 hr.	White Translucent
PlatSil® 73-20	1A:1B	A22	3,000 cP	5 min.	1 hr.	Blue Translucent
PlatSil® 71-25	1A:1B	A25	3,500 cP	35 min.	16 hr.	Milky White
PlatSil® 73-25	1A:1B	A25	6,000 cP	15 min.	4–5 hr.	Green
PlatSil® 73-29	1A:10B	A30	15,000 cP	45 min.	16 hr.	White
PlatSil® 71-40	1A:10B	A40	38,000 cP	90 min.	24 hr.	Translucent
PlatSil® 73-40	1A:10B	A40	15,000 cP	45 min.	16 hr.	Yellow
PlatSil® 73-45	1A:10B	A45	35,000 cP	60 min.	16 hr.	Green
PlatSil® 73-60	1A:10B	A60	40,000 cP	45 min.	16 hr.	Blue

### PLATSIL® FS-SERIES (FAST-SETTING) SILICONE RUBBERS

Fast-setting, high performance silicones.

PRODUCT	MIX RATIO BY WEIGHT	SHORE HARDNESS	MIXED VISCOSITY	POUR TIME	DEMOLD TIME	CURED COLOR
PlatSil® FS-10	1A:1B	OO60/A13	4,200 cP	8 min.	25 min.	Milky White
PlatSil® FS-20	1A:1B	OO60/A20	3,800 cP	8 min.	25 min.	Milky White

### PLATSIL® HTS-SERIES SILICONE RUBBERS

High-performance silicones with excellent tear strength, tensile strength and elongation properties.

PRODUCT	MIX RATIO BY WEIGHT	SHORE HARDNESS	MIXED VISCOSITY	POUR TIME	DEMOLD TIME	CURED COLOR
PlatSil® HTS-25	1A:10B	A25	15,500 cP	70 min.	24 hr.	Milky White
PlatSil® HTS-25 FAST	1A:10B	A25	18,000 cP	15 min.	3 hr.	Milky White
PlatSil® HTS-40	1A:10B	A40	17,000 cP	30 min.	24 hr.	Milky White

### SPECIALTY PLATSIL® PRODUCTS

PRODUCT	MIX RATIO BY WEIGHT	SHORE HARDNESS	MIXED VISCOSITY	POUR TIME	DEMOLD TIME	CURED COLOR
PlatSil® SiliGlass Super-clear, glass-like rubber used for broken glass special effects	1A:1B	A40	200 cP	5 min.	30 min.–1 hr.	Clear

# PlatSil® Gels | Skin-Safe Silicone Rubbers

PlatSil® Gels are the industry standard in the special effects industry for creating life-like theatrical prosthetic appliances for film, television and theater. They are also used for lifecasting, prop making and general silicone mold making.

These versatile silicones are skin-safe, fast-setting and offer simple 1A:1B mix ratios by weight or volume.

An array of accessory products can be used independently or in concert to increase working time, accelerate cure time, thicken the mix for brushing/layering, increase Shore Hardness, thin the mix for easier pouring, or “deaden” the rubber to soften and eliminate the snappy, synthetic look and feel of ordinary silicone rubbers.

## Product Options

**PlatSil® Gel-10 Silicone Rubber & PlatSil® Gel-25 Silicone Rubber** have been tested by an independent laboratory and was found to comply with 21 CFR 177.2600 (as published in the Code of Federal Regulations) for rubber articles intended for repeated use food contact surfaces when accurately measured, thoroughly mixed, and fully cured.

PRODUCT	MIX RATIO	SHORE HARDNESS	MIXED VISCOSITY	POUR TIME	DEMOLD TIME	CURED COLOR
PlatSil® Gel-OO20	1A:1B	OO20	3,900 cP	40 min.	2 hr.	Milky White
PlatSil® Gel-OO30	1A:1B	OO30	6,200 cP	45 min.	4 hr.	Milky White
PlatSil® Gel-OO	1A:1B	OO30	22,000 cP	6 min.	30 min.	Milky White
PlatSil® Gel-10	1A:1B	A10	15,000 cP	6 min.	30 min.	Milky White
PlatSil® Gel-25	1A:1B	A25	3,500 cP	5 min.	30 min.	Milky White

### ACCESSORIES FOR PLATSIL® GELS

Deadener/Softener	Add Smith's Theatrical Prosthetic Deadener or PlatSil® Deadener LV (Low-Viscosity) to soften, or “deaden” PlatSil® Gel rubber. <i>See details below in “Deadener &amp; Hardener” section.</i>
Hardener	Add PlatSil® Part H Hardener to increase the Shore hardness of any PlatSil® Gel. It also increases working and demold time. <i>See details below in “Deadener &amp; Hardener” section.</i>
Color Pigments	Use Silicone Color Pigments to create custom colors in silicone rubber. Available in fleshtone, red, blue, green, yellow, black and white.
Thickener	Add PlatThix liquid thickener to PlatSil® Gels to thicken the mix to a light-bodied, non-sag gel. Add up to 5% PlatThix to the total mixed weight of the PlatSil® Gel.
Retarder	Add PlatSil® 71/73 Part R Retarder to slow the cure of PlatSil® products. Add up to 4% Part R to the total mixed weight of the PlatSil® Gel.
Accelerator	Add PlatSil® 71/73 Part X Accelerator to accelerate the cure of PlatSil® products. Add up to 3% Part X of the total mixed weight of the PlatSil® Gel.”
Thinning Agent/Softener	Add Silicone Fluid 50 cSt to the mixed rubber to thin the mix. More than 10% fluid addition may exude from the cured rubber. To soften without oil leaching, use Smith's Theatrical Prosthetic Deadener or PlatSil® Deadener LV.

### DEADENER & HARDENER

Add Smith's Theatrical Prosthetic Deadener or PlatSil® Deadener LV (Low-Viscosity) to PlatSil® Gels to eliminate the snappy, synthetic feel of silicone and create the appearance and feel of living tissue. The addition of deadener is not recommended for PlatSil® Gel-OO30 and PlatSil® Gel-OO20.



...continued from *Deadener & Hardener*

Deadener increases the softness of silicone; PlatSil® Part H Hardener increases the hardness. For example, PlatSil® Gel-25, PlatSil® Deadener LV and PlatSil® Part H Hardener can be mixed at varying ratios to achieve hardness ranging from Shore 00030 to A40.

To reduce the tackiness that presents itself with the addition of Deadener, either encapsulate the silicone or simply brush-on talcum powder. For self-sticking, reusable appliances, do not apply powder to the backside of the appliance. Unlike silicone fluid, Deadener does not leach from the cured rubber/appliance, so bonding and use are far simpler.



Artist: Prosthetics - Neill Gorton/Millennium FX | Production - "Nurse" BBC

### LIFECASTING WITH PLATSIL® GELS

Skin-safe PlatSil® Gels can be used to create reusable lifecasts. Use PlatSil® Gel-10 or PlatSil® Gel-25 in conjunction with PlatThix liquid thickener and/or PlatSil® 71/73 Part X Accelerator for application when necessary (this will reduce sag and speed the process). A release agent, like Vaseline®, must be applied to the model prior to the lifecasting process. A variety of materials can be cast into PlatSil® Gel molds without release agent, including polyurethane resin, foam and rubber, wax and plaster. Silicone rubber can be cast in PlatSil® Gel molds when the proper release agent is used (e.g., Pol-Ease® 2500 Release Agent).

### MOLD MAKING WITH PLATSIL® GELS

PlatSil® Gel-25 is a good option for making poured block molds (e.g., flat molds) or brush-on molds for casting prosthetics or props. PlatSil® Gel-25 cures to a Shore A25, but with the addition of PlatSil® Part H Hardener, Gel-25 can be made as hard as Shore A40.

### PROP MAKING WITH PLATSIL® GELS

PlatSil® Gels are a great option for creating life-like, silicone props. In some cases, it may be more practical to create a silicone "skin" backfilled with PolyFoam polyurethane casting foam or PlatSil® SiliFoam silicone casting foam instead of a solid silicone part. This option is much lighter and easier to handle and it costs less to manufacture.



Artist: Jim Udenberg - Imaginarium FX



# Silicone Rubber Accessories

## COLOR DYES

Silicone Color Pigments	Pigments for coloring Polytek® PlatSil® and TinSil® silicone rubbers. Available in: fleshtone, red, blue, green, yellow, black and white <sup>^</sup> . Add up to 0.5% of the total mixed weight of the silicone mix.
-------------------------	---

## THICKENERS

PlatThix Liquid Thickener	Add PlatThix liquid thickener to thicken PlatSil® silicone rubbers for brush-on application. Add up to 5% PlatThix of the total mixed weight of the PlatSil® mix. Experiment to determine the best amount to add for your application.
TinThix Liquid Thickener	Add TinThix liquid thickener to thicken TinSil® silicone rubbers for brush-on application. Add up to 5% TinThix of the total mixed weight of the silicone mix. Experiment to determine the best amount to add for your application.
Fumed Silica	A fine powder that can be added to liquid silicone rubbers to thicken them for brush-on applications.

## ACCELERATORS & RETARDERS

PlatSil® 71/73 Part X Accelerator	PlatSil® 71/73 Part X Accelerator accelerates the pour times and demold times of PlatSil® silicone products. Add up to 3% Part X to the total mixed weight of the PlatSil® mix. <b>EXAMPLE:</b> The addition of 1% Part X to the total mixed weight decreases the pour time to ~1/2 the normal pour time. The addition of 2% decreases the normal pour time to ~1/4. The addition of 3% decreases the normal pour time to ~1/3. The demold time will also be reduced. Experiment to determine the best amount to add for your application.
TinSil® FastCat Accelerator	Use TinSil® FastCat to accelerate the cure and shorten the demold time of TinSil® silicone products. FastCat can be added in a range of 1% to 4% of Part B by weight. <b>EXAMPLE:</b> When using TinSil® 80-30, adding 2% FastCat will result in a ~15-minute pour time and ~4-hour demold time. Adding 3% FastCat will result in a ~10-minute pour time and ~3-hour demold time. Adding 4% FastCat will result in a ~5-minute pour time and ~2-hour demold time. Experiment to determine the best amount to add for your application.
PlatSil® 71/73 Part R Retarder	PlatSil® 71/73 Part R Retarder slows the pour times and demold times of PlatSil® silicone products. Add up to 4% Part R to the total mixed weight of the PlatSil® mix.

## SOFTENER

Silicone Fluid 50cSt	Add Silicone Fluid 50 cSt to TinSil® and PlatSil® products for a lower-viscosity mix and a softer rubber.
----------------------	---

## REINFORCEMENT MATERIALS

Tietex® Fabric	A strong, conformable, reinforcing fabric often used to reinforce the top of a seam in brushed or sprayed molds or laid into the back of a poured mold to increase durability.
----------------	--

Refer to the “Accessories & Tools” section of this catalog for additional accessories, including Tools & Mixing Equipment, Safety Equipment, Adhesives, Digital Scales, PlasPak Spray Equipment and Drum Handling Equipment. Refer to the “Release Agents & Sealers” section for release agents and sealers.

<sup>^</sup> **WARNING:** This product can expose you to chemicals including Titanium Dioxide which is known to the State of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

# POLYURETHANE LIQUID CASTING PLASTICS



## POLYURETHANE PLASTICS: INTRODUCTION

POLYTEK®'S TWO-PART, ROOM-TEMPERATURE CURING POLYURETHANE PLASTICS ARE AVAILABLE IN VARIETIES THAT CAN BE Poured, BRUSHED OR SPRAYED TO CREATE CASTINGS WITH UNLIMITED VERSATILITY.

These plastics are separated into five different series. From super low-viscosity, fast-setting resins to water-clear options, almost any color, size, shape, weight and appearance can be achieved by using these systems. Utilize available accessories to help achieve the desired look and feel.

Polyurethane casting plastics can be cast in silicone mold rubbers without any release agent, but require a release agent when cast in polyurethane rubber molds.

Polytek® polyurethane plastics are divided into the following series:

- EasyFlo Series Liquid Casting Plastics
- Kast Series Urethane Resins
- Poly 15-Series Liquid Casting Plastics
- Poly-Optic® 14-Series Clear Casting Resins
- Poly LiteCast Liquid Casting Resin
- Poly Plasti-Flex Liquid Casting Resin
- Epoxy Liquid Casting Plastics
- Polyurethane Plastic Accessories - Page 28



## EasyFlo Series Liquid Casting Plastics | Fast-Setting, Low-Viscosity

EasyFlo Series products are easy-to-use, super-low viscosity polyurethane resins with simple, 1A:1B mix ratios by volume. These resins make for perfect detail penetration and bubble-free castings without the need for vacuum or pressure techniques. Rapid demold times make EasyFlo products ideal for high-volume, fast-cast applications.

EasyFlo Series plastics are the fastest setting and lowest viscosity resins in Polytek®'s polyurethane resin product line, are very versatile and work well for countless commercial, industrial, hobby, craft, prop and display projects. These plastics can be colored with PolyColor Dyes, mixed with metal powders (e.g., bronze powder) and they can be filled with a variety of inexpensive fillers to conserve cost and reduce shrinkage in large masses.

These plastics can be cast in PlatSil® platinum-cured silicones and TinSil® tin-cured silicones without any release agent. Release agent (e.g., Pol-Ease® 2300 Release Agent) must be used when casting in polyurethane rubber molds.

### PRODUCT LINE FEATURES

- Type: Two-part polyurethane resins
- Room temperature curing (RTV)
- Super-low viscosity
- Easily colored with PolyColor Dyes
- Perfect cast detail
- Opaque and translucent options
- Fast demold times (as fast as 15 minutes)
- 1A:1B mix ratios by volume
- Options for pouring, rotocasting and slush casting, and spraying
- Bubble-free castings
- Tough, non-brittle

- Can be machined, drilled, sanded
- A variety of optional accessories

### POPULAR APPLICATIONS

- Sculpture Reproduction (e.g., cold cast bronze)
- Prototyping
- Theming, Display & Decor
- Prop Making
- Model Making
- Taxidermy
- Hobby & Craft Projects
- Plastic Millwork & Ornamentation





## Product Options

PRODUCT	DESCRIPTION
EasyFlo 60 Liquid Plastic	The lowest-viscosity option in the EasyFlo Series. Pours like water, so making bubble-free parts is easy and fast.
EasyFlo 90 Liquid Plastic	Useful when a longer pot life of 5 minutes is needed to complete a pour.
EasyFlo 120 Liquid Plastic	Best for rotocasting or slush casting to create nearly unbreakable, hollow parts – especially when backfilled with PolyFoams.
EasyFlo Clear Liquid Plastic	Cures to a pale amber color and is often used with PolyColor Dyes to make transparent, colored castings or with fillers (e.g., bronze powder) that are added for visual appeal.
EasyFlo Black Liquid Plastic	Cures to a deep, black color without the addition of PolyColor Dyes.
EasyFlo 100 FR Liquid Plastic	A pourable, UL-94 (V-0) fire-retardant plastic.
EasyFlo Spray FR Liquid Plastic	A sprayable, UL-94 (V-0) fire-retardant plastic. Designed to be sprayed using a low cost, portable PlasPak spray gun and cartridges or with higher output equipment for even larger projects.

## Product Specifications

PRODUCT	MIX RATIO	SHORE HARDNESS	MIXED VISCOSITY	POT LIFE	DEMOLD TIME *	CURED COLOR
EasyFlo 60 Liquid Plastic	1A:1B by volume 100A:90B by weight	D65	60 cP	2–2.5 min.	15–30 min.	White
EasyFlo 90 <sup>^</sup> Liquid Plastic	1A:1B by volume 100A:90B by weight	D70	200 cP	5 min.	1–2 hr.	White
EasyFlo 120 <sup>^^</sup> Liquid Plastic	1A:1B by volume 100A:90B by weight	D65	120 cP	2–2.5 min.	15–30 min.	White
EasyFlo Clear Liquid Plastic	1A:1B by volume 100A:85B by weight	D72	110 cP	2–2.5 min.	15–30 min.	Translucent Amber
EasyFlo Black Liquid Plastic	1A:1B by volume 1A:1B by weight	D70	200 cP	1.5–2 min.	10–15 min.	Black
EasyFlo 100 FR <sup>^</sup> Liquid Plastic	1A:1B by volume 1A:1B by weight	D65	120 cP	2–2.5 min.	15–30 min.	Off-White/Tan
EasyFlo Spray FR Liquid Plastic	1A:1B by volume 100A:90B by weight	D75	250 cP	N/A	5–10 min.	Off-White

\* Demold time varies with thickness of casting and the amount of accelerator used.

<sup>^</sup> **⚠️ WARNING:** This product can expose you to chemicals including Di-isodecyl phthalate (DIDP), which is known to the State of California to cause reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

<sup>^^</sup> **⚠️ WARNING:** This product can expose you to chemicals including Butyl benzyl phthalate (BBP), which is known to the State of California to cause reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

# Kast Series Urethane Resins | High-Performance Tooling Resins

Kast Series products are high-performance, fast-cast tooling and casting urethane resins. These two-part, room-temperature curing (RTV) systems are designed for use in a variety of applications including foundry, special effects, prototyping, vacuum and thermo-forming, and many other industrial and commercial applications.

Kast products were developed to provide high moisture resistance, improved filler suspension, easier premixing of the components, and minimal shrinkage.

## PRODUCT LINE FEATURES

- Type: Two-part polyurethane resins
- Room temperature curing (RTV)
- 1A:1B mix ratios by weight or volume
- Tough, non-brittle
- Low-viscosity
- Reproduces fine detail
- Can be machined, drilled, sanded
- Low shrinkage on cure
- Fast demold times

## POPULAR APPLICATIONS

- Foundry
- Prototyping
- Special Effects
- Model Making

## Product Options

PRODUCT	DESCRIPTION
BC-8002 Kwik-Kast II Gray	High-performance urethane tooling and casting resin with a fast turnaround time.
BC-8655 Kwik-Kast II Blue	Similar to BC-8002, but blue in color and with a slightly longer pot life.
BC-8009 Slo-Kast Gray	Features a longer pot life compared to BC-8655 and BC-8002 - ideal for filling larger closed mold cavities and casting large sections without having to stage pour.
BC-8010 Metal-Kast	Simulates many of the desirable characteristics of aluminum metal.

## Product Specifications

PRODUCT	MIX RATIO	SHORE HARDNESS	MIXED VISCOSITY	POT LIFE	DEMOLD TIME *	CURED COLOR
BC-8002 Kwik-Kast II Gray Urethane Resin <sup>^</sup>	1A:1B by weight or volume	D85	2,350 cP	5-6 min.	1-2 hr.	Gray
BC-8655 Kwik-Kast II Blue Urethane Resin <sup>^^</sup>	1A:1B by weight or volume	D83	2,120 cP	8-10 min.	1-2 hr.	Blue
BC-8009 Slo-Kast Gray Urethane Resin <sup>^</sup>	1A:1B by weight or volume	D85	2,250 cP	14-18 min.	3-4 hr.	Gray
BC-8010 Metal-Kast Urethane Resin <sup>^</sup>	1A:1B by weight or volume	D83	2,250 cP	6-7 min.	1.5-2 hr.	Gray

\*Demold time varies with thickness of casting and the amount of accelerator used.

<sup>^</sup> **⚠️ WARNING:** This product can expose you to chemicals including Benzene, Cumene and Dibutyl Phthalate which are known to the State of California to cause cancer and/or reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

<sup>^^</sup> **⚠️ WARNING:** This product can expose you to chemicals including Cumene and Benzene which are known to the State of California to cause cancer and/or reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## Poly 15-Series Liquid Casting Plastics | High Strength Plastics

Poly 15-Series plastics are versatile, two-part polyurethane systems used for countless commercial, industrial, artistic, prototyping, hobby, craft, prop and display casting applications. Some of these room-temperature curing resins mimic the density of thermoplastics (e.g., ABS) or wood while others are great options for constructing lightweight mold shells.

These plastics can be colored with PolyColor Dyes, mixed with metal powders (e.g., bronze powder) and they can be filled with a variety of inexpensive fillers to conserve cost and reduce shrinkage in large masses.

These plastics can be cast in PlatSil® platinum-cured silicones and TinSil® tin-cured silicones without any release agent. Release agent (e.g., Pol-Ease® 2300 Release Agent) must be used when casting in polyurethane rubber molds.

### PRODUCT LINE FEATURES

- Type: Two-part polyurethane resins
- Room temperature curing (RTV)
- Shore D71 to D80 hardness options
- Tough, non-brittle
- 1A:1B mix ratios by weight
- Reduces fine detail
- Can be machined, drilled, sanded
- Lightweight options for mold shells
- Low shrinkage on cure
- Fast and slow working times/demold times available
- Castable in large masses
- A variety of optional accessories
- Add PolyFiber II thickener for brush-on application

### POPULAR APPLICATIONS

- Sculpture Reproduction (e.g., cold cast bronze)
- Prototyping
- Theming, Display & Decor
- Prop Making
- Model Making
- Taxidermy
- Hobby & Craft Projects
- Plastic Millwork & Ornamentation
- Mold Shells





## Product Options

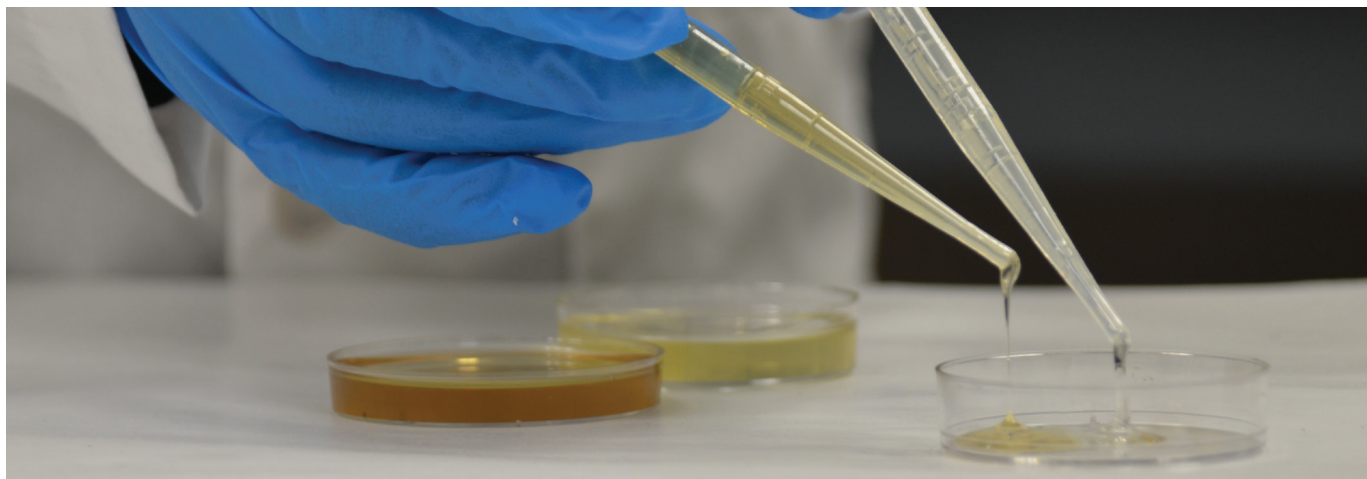
PRODUCT	DESCRIPTION
Poly 15-3 Liquid Plastic	This highly filled plastic has a density similar to stone when cured and exhibits the least amount of shrinkage compared to other Polytek® plastics.
Poly 15-3X Liquid Plastic	A fast-setting version of Poly 15-3 Liquid Plastic.
Poly 1511 Liquid Plastic	This plastic has the feel and density of hard wood or thermoplastics when cured. When mixed with PolyFiber II, a thickening agent, it is a great option for making tough, lightweight mold shells.
Poly 1512 Liquid Plastic	This plastic has the feel and density of hard wood or thermoplastics when cured.
Poly 1512X Liquid Plastic	A fast version of Poly 1512 Liquid Plastic. When used with PolyFiber II thickener, this is a very popular option for the construction of mold shells.

## Product Specifications

PRODUCT	MIX RATIO BY WEIGHT	SHORE HARDNESS	POT LIFE	MIXED VISCOSITY	DEMOLD TIME *	CURED COLOR
Poly 15-3 Liquid Plastic	1A:1B	D80	15 min.	2,000 cP	12 hr.	Tan
Poly 15-3X Liquid Plastic	1A:1B	D80	5 min.	2,000 cP	1 hr.	Tan
Poly 1511 <sup>^</sup> Liquid Plastic	1A:1B	D71	10 min.	400 cP	30 min.–1 hr.	White
Poly 1512 <sup>^</sup> Liquid Plastic	1A:1B	D71	22 min.	400 cP	1–16 hr.	White
Poly 1512X <sup>^</sup> Liquid Plastic	1A:1B	D71	5 min.	400 cP	30 min.	White

\* Demold time varies with thickness of casting and the amount of accelerator used.

<sup>^</sup> **⚠️WARNING:** This product can expose you to chemicals including Phenylmercuric compound, which is known to the State of California to cause reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).





## Poly-Optic® 14-Series Clear Casting Resins | Water-Clear Plastics

Poly-Optic® 14-Series plastics are specifically designed for applications where optical clarity is a must. Castings will be water-clear; however, PolyColor Dyes can be added to obtain clear, colored castings. In addition, Poly-Optic® systems can be filled with metal, marble and many other fine powders to achieve myriad effects.

These plastics can be cast in PlatSil® platinum-cured silicone without release agent and can be cast in polyurethane rubber molds when a suitable release agent is used (e.g., Pol-Ease® 2300 Release Agent). TinSil® tin-cured molds are not recommended as cure inhibition can occur.

**NOTES:** Vacuum and/or pressure casting techniques are recommended for bubble-free Poly-Optic® parts.

### PRODUCT LINE FEATURES

- Type: Two-part polyurethane resins
- Room temperature curing (RTV)
- Shore A70 to D85 hardness options

- Water-clear color
- Easily accepts dyes and dry fillers
- Tough and hard
- Reproduces fine detail
- Low shrinkage upon cure
- Can be machined, drilled and sanded
- Optional accessories including accelerator and retarder
- Non-yellowing formulas (except Poly-Optic® 14-70); however, not recommended for long-term exterior use

### POPULAR APPLICATIONS

- Sculpture & Foundry
- Prototyping
- Theming & Display
- Prop Making
- Prototyping
- Hobby & Craft Projects

### Product Options

PRODUCT	DESCRIPTION
Poly-Optic® 1410 Casting Resin	This casting resin cures to a water-clear, virtually unbreakable Shore D80 plastic. Cure Poly-Optic® 1410 at room temperature, and for optimum physical properties, post cure at 150°F.
Poly-Optic® 1411 Casting Resin	This casting resin cures to a super strong, water-clear, D80 plastic. Poly-Optic® 1411 develops hardness and can be demolded sooner than Poly-Optic® 1410. It also has a higher heat deflection temperature, which is useful in certain prototyping applications.
Poly-Optic® 1411 ES7 Casting Resin	The slower version of Poly-Optic® 1411 Casting Resin with a pot life of 400 minutes.
Poly-Optic® 1412 Casting Resin	Poly-Optic® 1412 is a high-strength, heat-resistant, fast-curing, clear plastic designed for casting in heated molds.
Poly-Optic® 1420 Casting Resin	This casting resin cures to a tough, impact- and heat-resistant, water-clear plastic that can be polished and machined. For strong plastic, heat cure at 150°-180°F. For brittle, glass-like castings, cure at room temperature.
Poly-Optic® 14-70 Casting Resin	This casting resin cures to a firm, water-clear rubber with a Shore hardness of A70. Blend Poly-Optic® 1410 and Poly-Optic® 14-70 to achieve any hardness between Shore D85 and Shore A70.
Poly-Optic® 1490 Casting Resin	A mercury-free formula with an easy 1A:1B mix ratio by volume. Must be pressure cast or used with vacuum casting equipment (not vacuum degassing).

## Product Specifications

PRODUCT	MIX RATIO	SHORE HARDNESS	MIXED VISCOSITY	POT LIFE	DEMOLD TIME *	CURED COLOR
Poly-Optic® 1410 Casting Resin <sup>^</sup>	3A:2B by weight	D80	700 cP	15 min.	2 hr.	Water-Clear
Poly-Optic® 1411 Casting Resin <sup>^</sup>	1A:1B by volume	D80	600 cP	9 min.	30 min. (½-inch thick)	Water-Clear
Poly-Optic® 1411 ES7 Casting Resin <sup>^^</sup>	1A:1B by volume	D80	600 cP	400 min.	48 hr.	Water-Clear
Poly-Optic® 1412 Casting Resin <sup>^^</sup>	1A:1B by weight or volume	D80	750 cP	8 min.	30 min. @ 175°F	Water-Clear
Poly-Optic® 1420 Casting Resin <sup>^^</sup>	2A:1B by weight	D85	250 cP	15 min.	8 hr. @ 150°F 30 min. @ 175°F	Water-Clear
Poly-Optic® 14-70 <sup>^</sup> Casting Resin	4A:5B by weight	A70	340 cP	15 min.	24–48 min.	Water-Clear
Poly-Optic® 1490 Casting Resin	1A:1B by volume	D80	690 cP	9 min.	1 hr. (½-inch thick)	Water-Clear

\* Demold time varies with thickness of casting and the amount of accelerator used.

<sup>^</sup> **⚠️ WARNING:** This product can expose you to chemicals including Phenylmercuric compounds and Lead, which are known to the State of California to cause cancer and/or reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

<sup>^^</sup> **⚠️ WARNING:** This product can expose you to chemicals including Phenylmercuric compound, which is known to the State of California to cause reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## Poly LiteCast Liquid Casting Resin | Lightweight Plastic

Poly LiteCast is a lightweight, wood-like polyurethane plastic that is often used as an alternative to plaster and concrete. It is most often used for lightweight decorative moldings, props, patterns, fixtures and tools.

This room-temperature curing, two-part plastic has a 1A:1B mix ratio by weight and can be drilled, sanded and machined in cured form (contains no silica fillers).

### PRODUCT LINE FEATURES

- Type: Two-part polyurethane resin
- Room temperature curing (RTV)
- Shore D55 hardness
- Low density (floats in water)
- Reproduces fine detail
- Can be machined, drilled, sanded (contains no silica)
- Can be colored with PolyColor dyes

- Add PolyFiber II for brush-on or trowel application
- Lightweight alternative to plaster and concrete
- A variety of optional accessories

### PRODUCT APPLICATIONS

- Decorative Millwork, Ornamentation & Trim
- Prop Making

## Product Specifications

PRODUCTV	MIX RATIO	SHORE HARDNESS	MIXED VISCOSITY	POT LIFE	DEMOLD TIME	CURED COLOR
Poly LiteCast <sup>^^^</sup>	1A:1B by weight or volume	D55	2,480 cP	5 min.	1 hr.	Tan

<sup>^^^</sup> **⚠️ WARNING:** This product can expose you to chemicals including Di-isodecyl phthalate (DIDP), which is known to the State of California to cause reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).



## Poly Plasti-Flex Liquid Casting Resin | Slightly Flexible Plastic

Poly Plasti-Flex is a flexible polyurethane casting material that is most often used for making slightly flexible and impact-resistant parts such as decorative trim, flex molding and millwork. Poly Plasti-Flex also works well for casting props and display items requiring high impact resistance.

### PRODUCT LINE FEATURES

- Type: Two-part polyurethane resin
- Room temperature curing (RTV)
- Slightly flexible, impact resistant
- Reproduces fine detail
- Can be machined, drilled, sanded (contains no silica)

- Can be colored with PolyColor Dyes
- Add PolyFiber II for brush-on or trowel application
- A variety of optional accessories

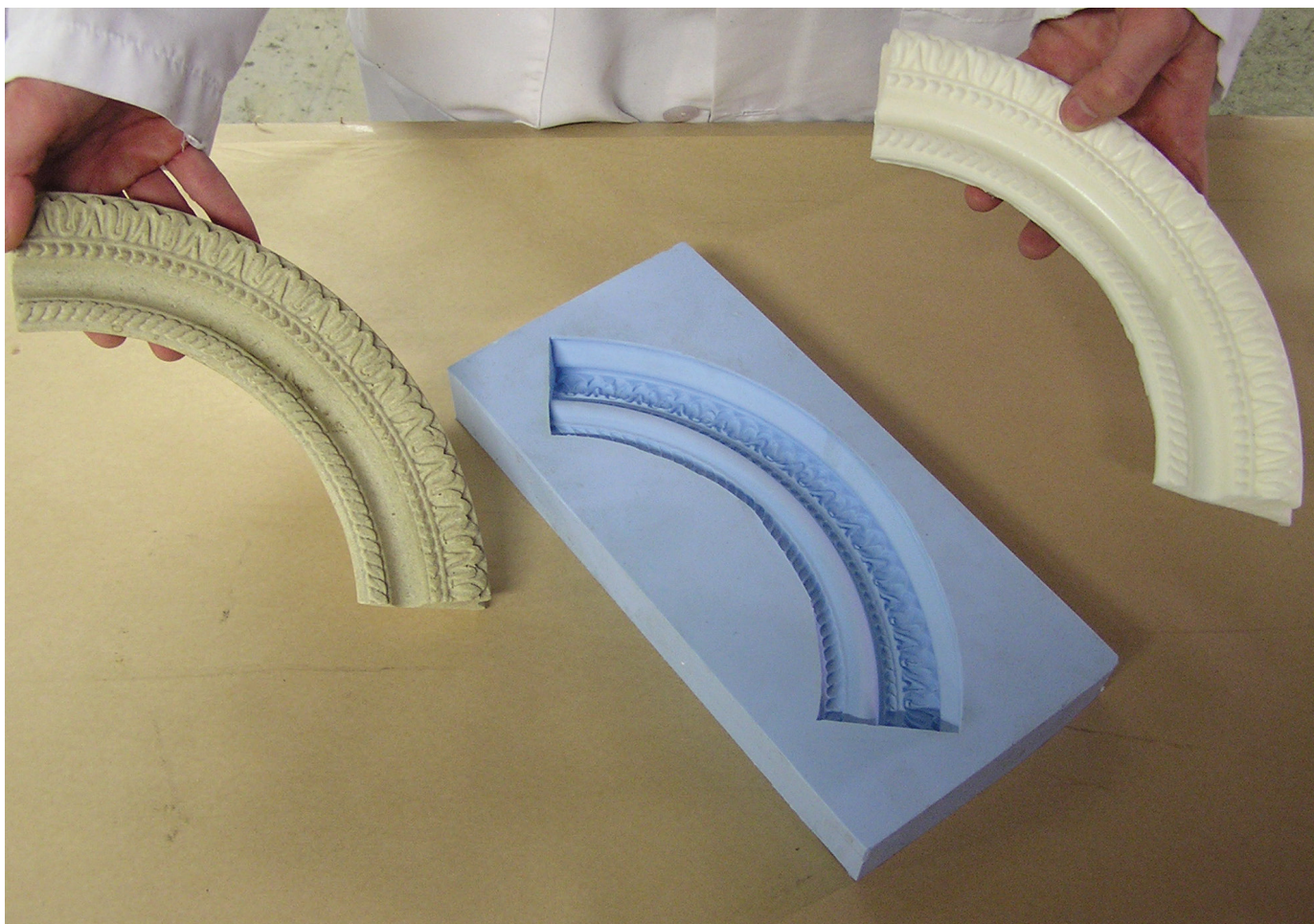
### POPULAR APPLICATIONS

- Decorative Molding, Millwork & Trim
- Prop Making

### Product Specifications

PRODUCT	MIX RATIO BY WEIGHT	SHORE HARDNESS	MIXED VISCOSITY	POT LIFE	DEMOLD TIME	CURED COLOR
Poly Plasti-Flex <sup>^</sup>	35A:100B	A90	3,000 cP	3 min.	15 min.	Tan

<sup>^</sup> **⚠ WARNING:** This product can expose you to chemicals including Phenylmercuric compound, which is known to the State of California to cause reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).



# Epoxy Liquid Casting Plastics

PolyPoxy® and PolyCure liquid epoxy plastics are excellent for casting small decorative objects, prototypes, duplicate masters, and for decoupage coating and glass bonding.

PolyPoxy® resins can be cured with various PolyCure hardeners allowing users to select the best system for a particular use; PolyPoxy® and PolyCure combination recommendations are listed below under “Product Options”. The mix ratio for each curing agent and resin blend varies; mix ratios and physical properties for each PolyPoxy® and PolyCure combination are listed below under “Specifications”.

Epoxy plastics can be cast in PlatSil® and TinSil® silicone molds without any release agent. A suitable release agent (e.g., Pol-Ease® 2300 Release Agent) must be used to cast epoxy in polyurethane and latex rubber molds.

## PRODUCT LINE FEATURES

- Not moisture sensitive like polyurethane resins
- Accepts fillers easily (e.g., bronze powder)
- Shore D80 and D95 options
- Temperature resistant
- Room temperature curing (RTV)

## Product Options

PolyPoxy® 1010 is a clear, low-viscosity resin that can be used with PolyCure 1212 or PolyCure 1220.


View the table below for specific applications:

### POLYPOXY & POLYCURE COMBINATIONS

PolyPoxy® 1010 + PolyCure 1212	For bonded bronze and small castings. Maximum casting thickness of 0.5".
PolyPoxy® 1010 + PolyCure 1220	For decoupage coatings and glass bonding. Use for castings where a nearly colorless, clear, moisture-insensitive, high hardness resin is required. Maximum casting thickness of 1.5".

## PolyPoxy® & PolyCure Specifications

POLYPOXY® & POLYCURE	1010^ + 1212	1010^ + 1220
Parts Cure per 100 of PolyPoxy by weight	15	85 (1:1 by volume)
Mixed Viscosity (cP)	3,000	3,000
Pot Life, 150 g mix @ 77°F	25 min.	30 min.
Demold Time	4–8 hr.	48 hr.
Maximum Casting Thickness (in)	0.5	1.5
Shore Hardness	D95	D80

^  **WARNING:** This product can expose you to chemicals including Epichlorohydrin which is known to the State of California to cause cancer and/or reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## Polyurethane Casting Plastic Accessories

### ACCELERATORS

Poly 15  
Part X Accelerator

Poly 15 Part X Accelerator accelerates the pot life and demold times of Poly 15-Series & EasyFlo Series products. A few drops added to a one-pound mix speeds the cure significantly. Experiment to determine how much Part X is needed for your application. Do not exceed 1% of the total mixed weight as final physical properties may be affected.

Poly-Optic® 14  
Part X Accelerator

Poly-Optic® 14 Part X Accelerator speeds the cure of Poly-Optic® products (recommended for castings less than ½" thick). Experiment to determine how much Part X is needed for your application. Do not exceed 1% of the total mixed weight as final physical properties may be affected.

**EXAMPLE:** 0.5 grams of Part X in a 100 gram mix of Poly-Optic® 1410 Clear Casting Resin cuts the pot life and cure times in half.

### RETARDER

Poly-Optic® 14  
Part R Retarder

Poly-Optic® 14-Series Part R Retarder slows the cure of Poly-Optic® products. For every part of Part R added, an equal part of Part A must be added to the mix. Experiment to determine how much is needed for your application. Do not exceed 4% of the total mixed weight as the product may not cure properly.

**EXAMPLE:** Add 1% Part R to Poly-Optic® 1411 to double the working time from 9 to 18 minutes.

### COLOR DYES & UV STABILIZER

PolyColor Dyes

Oil-based dyes for coloring Polytek®'s polyurethane plastics. Available in black, brown, blue, green, red yellow, white and fleshtone. Add up to 0.5% of the total mixed weight of the plastic.

UV Additive

Add this liquid additive to polyurethane plastics to improve exterior durability and reduce surface degradation caused by sunlight or other UV light sources.

### FILLERS & THICKENERS

PolyFiber II  
Thickening Agent

Add PolyFiber II to Polytek® liquid polyurethane plastics to thicken for brush-on application or to make mold shells.

PolyFil ND  
(Neutral-Density) Filler

Add PolyFil ND (neutral density) filler to Polytek® liquid polyurethane plastics to reduce the cost of the casting without changing its density and/or reduce shrinkage in polyurethane plastics.

Bronze Powder

Add Bronze Powder (325 Mesh) to EasyFlo Liquid Plastic to create cold cast bronze parts. This technique is most popular with EasyFlo 60 & EasyFlo Clear.

### PRODUCT LIFE EXTENDER

PolyPurge Dry  
Aerosol Gas

Spray PolyPurge into open polyurethane Part A and B containers just before resealing to displace moist air and extend the product life.

### REINFORCEMENT MATERIALS

Fiberglass Mat

A non-woven, 1.5 oz. per square foot, chopped strand mat to reinforce Polytek® resins.

Refer to the "Accessories & Tools" section of this catalog for additional accessories, including Tools & Mixing Equipment, Safety Equipment, Adhesives, Digital Scales, PlasPak Spray Equipment and Drum Handling Equipment. Refer to the "Release Agents & Sealers" section for release agents and sealers.



# CASTING FOAMS



## Rigid & Flexible Polyurethane Foams

Polytek® manufactures two-part, closed-cell polyurethane systems that are used to cast lightweight rigid or flexible objects with densities in the range of 3 to 20 lb/ft<sup>3</sup>. These foams have numerous uses in commercial, industrial, hobby, craft, prop and display applications.

Since these products are self-skinning, cast parts will capture full surface detail of the mold used. Generally, these products can be poured into TinSil® or PlatSil® silicone molds. Barrier coats (e.g., primer paint) can be applied to silicone molds before casting foam in order to produce pre-primed parts right out of the mold. These foams can also be poured into Poly 74-Series & 75-Series polyurethane rubber molds that have been coated with PolyCoat Sealer & Release Agent.

In addition to producing finished parts, urethane foams are often used to backfill hollow rubber and plastic castings. Poly Series foams will chemically bond to polyurethane rubbers and plastics; for the best results, the foam should be poured into these castings before the plastic or rubber is fully cured. To bond urethane foam to silicone rubber, a mechanical bond (e.g., cotton fibers) must be used.

### PRODUCT LINE FEATURES

- Many easy 1A:1B mix ratios
- Closed cell & self-skinning
- Rigid & flexible systems
- Cast parts with 3 to 20 lb/ft<sup>3</sup> densities
- PolyFoams are practically odorless and do not contain toluene diisocyanate, MOCA, heavy metals or HCFCs
- Can be colored with PolyColor Dyes

### POPULAR APPLICATIONS

- Decorative Millwork & Ornamentation
- Prop Making
- Prototyping
- Taxidermy
- Theming, Display & Décor
- Lightweight Mold Shells
- General Tooling Use

## Poly RF-Series Rigid Polyurethane Foam Product Options

PRODUCT	MIX RATIO	MIXED VISCOSITY	CREAM TIME	DEMOLD TIME	FREE-RISE DENSITY	MOLDED DENSITY
Poly RF-102	1A:1B by volume 100A:110B by weight	500 cP	15 sec.	10 min.	2 lb/ft <sup>2</sup>	2.5–4 lb/ft <sup>2</sup>
Poly RF-104	1A:1B by volume 100A:110B by weight	500 cP	15 sec.	10 min.	4 lb/ft <sup>2</sup>	5–8 lb/ft <sup>2</sup>
Poly RF-108	1A:1B by volume 100A:110B by weight	600 cP	20 sec.	10 min.	8 lb/ft <sup>2</sup>	10–14 lb/ft <sup>2</sup>
Poly RF-110	1A:1B by volume 100A:110B by weight	700 cP	20 sec.	10 min.	10 lb/ft <sup>2</sup>	12–20 lb/ft <sup>2</sup>

## PolyFoam Series Flexible Polyurethane Foam Product Options

PRODUCT	MIX RATIO	MIXED VISCOSITY	CREAM TIME	DEMOLD TIME	FREE-RISE DENSITY	MOLDED DENSITY
PolyFoam F-3	1A:2B by weight	2,000 cP	25 sec.	10 min.	3 lb/ft <sup>3</sup>	5–8 lb/ft <sup>3</sup>
PolyFoam F-5 <sup>^</sup>	1A:1B by weight or volume	1,400 cP	45 sec.	30–60 min.	5 lb/ft <sup>3</sup>	8–15 lb/ft <sup>3</sup>

<sup>^</sup> **⚠️ WARNING:** This product can expose you to chemicals including Butyl benzyl phthalate (BBP), which is known to the State of California to cause reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## PolyFoam Accessories

PRODUCT	DESCRIPTION
Color Dyes	PolyColor Dyes can be used to color PolyFoams. They are available in black, brown, blue, green, red, yellow, white and fleshtone.
PolyCoat Sealer & Release Agent	PolyCoat can be applied to polyurethane molds to cast PolyFoam. It can also be applied to silicone molds to improve performance and extend their life.
Product Life Extender	Use PolyPurge Aerosol Dry Gas to extend the product life of liquid PolyFoams by spraying it into containers before resealing.

## PlatSil SiliFoam Silicone Casting Foam

PlatSil® SiliFoam is a platinum-cured silicone foam with a 15 lb/ft<sup>3</sup> density.

SiliFoam can be used for many applications, but is often used in conjunction with PlatSil® Gel Silicone Rubbers to create prosthetic appliances and props. The weight of large prosthetic appliances can be reduced by back-filling surface layers of PlatSil® Gel silicone with low-density SiliFoam. SiliFoam will chemically bond to silicone rubbers, but should be poured against the silicone before the silicone has fully cured.

PRODUCT	MIX RATIO	MIXED VISCOSITY	CREAM TIME	DEMOLD TIME	FREE-RISE DENSITY	MOLDED DENSITY
PlatSil® SiliFoam	1A:1B	7,500 cP	30–40 sec.	30 min.	15 lb/ft <sup>3</sup>	15 lb/ft <sup>3</sup>

## PlatSil SiliFoam Accessories

PRODUCT	DESCRIPTION
Color Dyes	Silicone Color Pigments can be used to color PlatSil® SiliFoam. They are available in fleshtone, red, blue, green, yellow, black and white.

# LATEX & ALGINATE



## NaturForm™ Series | Molding Latex Rubbers

The NaturForm Series offers high-performing, natural molding latex rubbers that are most often used to make molds for casting plaster, concrete (e.g., veneer stone manufacturing and statuary) and limited casting with some resins. NaturForm products offer excellent tear strength and elongation properties and are available in 60-64% solid content options and a high solids option (70-74%). NaturForm 60-R and NaturForm 74-R have an internal release agent that assists in the release of casting materials, like concrete. NaturForm Latex has better tear strength than most synthetic rubbers and is sometimes preferred for molds that are peeled off the casting like a sock. Since individual coats of latex must dry before further coats are applied, mold making may take days or longer to complete properly. For one-day brushed or sprayed molds, consider using Polygel® 35 Brush-On rubber (16-hour demold time).

**NOTE:** Exposure to temperatures <40°F and >80°F may damage latex, causing irreversible coagulation. Do not allow to freeze.

### Product Options

PRODUCT	PERCENT SOLIDS	VISCOSITY	COLOR
NaturForm 60 <sup>^</sup>	58-62%	9,500–10,500 cP	White
NaturForm 60-R <sup>^</sup>	58-62%	5,000–6,000 cP	Blue
NaturForm 74 <sup>^^</sup>	70-74%	9,000–15,000 cP	White
NaturForm 74-R <sup>^^^</sup>	70-74%	17,000–20,000 cP	Blue

## NaturForm Series | Mask Making Latex Rubber

NaturForm 30<sup>^^^</sup> Mask Making Latex Rubber is a one-part, pourable casting latex that can be used to make masks (Halloween, Special FX, Cosplay), props and animatronic skins. This natural latex is designed to be poured into a dry, unsealed Gypsum mold and air dries to form a high-strength, flexible casting.

**NOTE:** Exposure to temperatures <40°F and >80°F may damage latex, causing irreversible coagulation. Do not allow to freeze.

- <sup>^</sup> **⚠️ WARNING:** This product can expose you to chemicals including Cadmium, Diethanolamine and o-Phenylphenate, sodium which are known to the State of California to cause cancer and/or birth defects. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).
- <sup>^^</sup> **⚠️ WARNING:** This product can expose you to chemicals including o-phenylphenate, sodium which are known to the State of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).
- <sup>^^^</sup> **⚠️ WARNING:** This product can expose you to chemicals including o-phenylphenate, sodium and Benzene which are known to the State of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).



## Hydrogel® Mold Compound | Alginate-Based Compound

Hydrogel® Mold Compound is an alginate-based white powder that, after mixing with water, cures in 5 minutes to a moist, rubbery material. Use Hydrogel® to make quick, single-use molds, especially when skin contact is required. Hydrogel® is ideal when making molds of the face, hands, feet, torso or other external parts of the human body.

Hydrogel® can also be used for taxidermy molds and for mold making applications where a delicate or valuable original cannot be molded in polyurethane or silicone liquid rubbers.

Plaster, wax, and EasyFlo 60 Liquid Plastic can be cast into Hydrogel® molds.

Use Hydrogel® Retarder to extend the working time of Hydrogel®.

### PRODUCT LINE FEATURES

- Non-toxic – safe for exterior body contact
- Easy to use – add water, mix and apply
- Good reproduction of fine detail
- Fast demold time
- Variable working time with addition of Retarder
- Low cost



# THERMOPLASTIC ELASTOMERS



## Dermasol

Dermasol is a series of soft, thermoplastic elastomers that feature high elongation properties. Thermoplastic elastomers, sometimes referred to as thermoplastic rubbers, are unique in that they combine the physical properties of rubber with the processing advantages of plastic. To mold Dermasol, it is heated to a molten temperature and then dispensed into a suitable, heat-resistant mold (e.g., 6061 aluminum, aluminum-filled epoxy molds, some platinum-cured silicone rubbers).

Dermasol feels remarkably like human flesh and is especially useful for simulating human/animal tissue and body parts for medical and surgical training.

### COMMON END PRODUCTS

- Medical Models & Surgical Training Aides
- Realistic Body Parts for Prop Making & Special Effects
- Soft Crown Protective Halos and other Protective Parts
- Specialty Casts

### CUSTOMIZABLE PROPERTIES

- Color (clear, opaque, translucent, glow-in-the-dark, fluorescent, custom color matching available, etc.)
- Durometer (Shore OO20-A25)
- Fragrance



# RELEASE AGENTS & SEALERS



The careful selection of sealers and/or release agents is essential to successful mold making. There are many ways the following materials can be used separately or in conjunction with one another. The following descriptions are brief synopses of each product and do not include every possible scenario; please reach out to Polytek® if you are unsure of which sealer and/or release agent may be required for your unique application.

## Release Agents & Sealers for Mold Making

PRODUCT	SEALER	RELEASE AGENT	DESCRIPTION
Pol-Ease® 2300 Release Agent		X	Silicone-based, aerosol spray release agent for use on non-porous or sealed models. Should only be used with polyurethane rubber.
Pol-Ease® 2500 Release Agent		X	Aerosol spray release agent that can be washed off of models. Can be applied to models for use with liquid silicone rubbers, but is not recommended for use with liquid polyurethane rubber.
Pol-Ease® 2350 Release Agent	X	X	White petrolatum dissolved in mineral spirits. This semi-permanent option can serve as a sealer and/or release agent. Can be applied to models for use with liquid polyurethane and liquid silicone rubbers.
Pol-Ease® 2450 Release Agent		X	Solvent and silicone-based release agent for use on models before pouring liquid polyurethane rubber. Fast drying, but flammable.
Poly PVA Solution	X	X	Water-soluble, alcohol-based sealer for porous models. Available in clear or green. Can be applied to models for use with liquid polyurethane and liquid silicone rubber. Must use additional release agent (Pol-Ease® 2300) when applying polyurethane rubber.
PolyCoat Sealer & Release Agent	X	X	Semi-permanent, silicone-based sealer and release agent. Can be applied to models for use with polyurethane and platinum-cured silicone rubbers (not recommended for use with tin-cured silicone rubbers).



## Release Agents & Sealers for Casting

PRODUCT	DESCRIPTION
Pol-Ease® 2300 Release Agent	Silicone-based, aerosol spray release agent. Apply to cured polyurethane molds when casting a variety of materials, including polyurethane liquid plastics, rubber or epoxies.
Pol-Ease® 2500 Release Agent	Aerosol spray release agent that can be washed off of castings. To extend mold life, apply to silicone molds when casting materials such as polyurethane plastics, polyurethane rubbers or epoxies (release agent is generally not necessary when casting these materials in silicone molds, but application will extend mold life). Use this release agent when casting liquid silicone into silicone molds.  Can also be sprayed into polyurethane molds before casting polyurethane liquid plastics, but the molds will not last as long as they would if Pol-Ease® 2300 was used. The main reason for using Pol-Ease® 2500 in a polyurethane mold would be to cast a part that can be cleaned more easily – useful if the casting needs to be painted.
Pol-Ease® 2601 Release Agent	Water-based release agent designed for use when casting concrete or plaster. Works best when allowed to dry before casting. As with other releases containing silicone, castings may need washing before applying finishes. Should only be applied to cured polyurethane rubber molds.
Pol-Ease® 2650 Release Agent	Silicone-free, oil-based release agent designed for use when casting concrete or plaster. After application, no drying time necessary prior to casting. Should only be applied to cured polyurethane rubber molds.
Poly PVA Solution	Water-soluble, alcohol-based sealer available in clear or green. Can be applied to cured polyurethane rubber molds as a “barrier coat” and is most often used (in conjunction with Pol-Ease® 2300) when casting polyester resin.
PolyCoat Sealer & Release Agent	Semi-permanent, silicone-based sealer and release agent. Can be applied to aging silicone molds to improve performance and extend their useful life.  Can also be applied to firm polyurethane rubber molds to give them a thin silicone skin on the mold face. This can allow materials such as polyurethane plastics or foams that would ordinarily require releases to be cast into dry polyurethane molds at a reduced cost.
Pol-Ease® 2750 Latex Release Agent	A release agent designed specifically for use when casting concrete into latex rubber molds and will result in easier demolding of concrete parts and improved mold life. Should only be applied to latex molds.



# ADHESIVES



Polytek® offers epoxy and polyurethane adhesive options. Adhesives can be used to repair tears or damaged models and molds, adhere models to baseboards for mold making, adhere urethanes to various substrates, and more.

## **PolyBond Polyurethane Adhesive | Great Mold Repair Adhesive**

---

PolyBond is a polyurethane adhesive that's great for repairing torn polyurethane molds. PolyBond has a 1A:3B mix ratio (by weight), ~3 minute working time and ~15 minute cure.

## **EpoxyBond Adhesive | Bond Rubber to Porous Surfaces**

---

EpoxyBond Adhesive<sup>^</sup> is a low viscosity, epoxy adhesive most often used to bond rubber molds to porous materials such as plywood, concrete and plaster. EpoxyBond has a 1A:1B mix ratio, a long working time of 120 minutes and a cure time of 24 to 48 hours.

<sup>^</sup> **⚠️WARNING:** This product can expose you to chemicals including Epichlorohydrin which is known to the State of California to cause cancer and/or reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).



# ACCESSORIES & TOOLS



## Safety Equipment

PRODUCT	DESCRIPTION
Nitrile Gloves	Disposable, powder-free, 4-mil nitrile gloves that offer comfort, dexterity and a broad range of chemical resistance.
Solvent Dispensing Can	Plunger can for dispensing flammable liquid features brass flame arrestor screens and pump assembly.

## Digital Scales

PRODUCT	DESCRIPTION
Digital Tabletop Scales	Accurately weigh Polytek® rubbers, plastics and foams with a digital tabletop scale. 5,000 g capacity (1 g readability) and 200 lb capacity (0.1 lb readability) options available.



## Tools & Mixing Equipment

PRODUCT	DESCRIPTION
Mixing Cups & Lids	Polytek® plastic mixing cups are great for mixing all Polytek® rubbers and plastics. They are available in 1 pint (16 oz), 1 quart (32 oz), 2.5 quart (86 oz) and 5 quart (165 oz) sizes and have printed measurements in ounces, milliliters, and select mix ratios (e.g., 1:1, 2:1). Mixing cups and lids are sold separately.
Mold Key Knife	A unique, notched knife to cut tongue-and-groove seams in molds. Makes mold registration easy. Most effective on mold rubbers that are Shore A30 and softer.
Nylon Mesh Mold Straps	Adjustable nylon straps ideal for securing mold box sidewalls to the base when making a block mold to prevent major leakage.
Pail Pal	A rugged cast aluminum pail opener that opens most plastic pails with ease.
Poly Paddle	A 16" paddle with flexible, rubber head that assists with thorough mixing of Polytek® materials.
Rubber Bands	Top quality 3/4-inch wide rubber bands for securing mold shell pieces together. Also good for securing multi-piece molds.
Stainless Steel Spatulas	All-purpose spatulas with semi-flexible stainless steel blade and vinyl handle.
Sure Shot Atomizer	16-oz capacity atomizer for use with Pol-Ease® 2601 Release Agent, Pol-Ease® 2350 Sealer & Release Agent, Pol-Ease® 2650 Sealer & Release Agent, Pol-Ease® 2450 Release Agent and PolyCoat Sealer & Release Agent.
Tongue Depressors	Convenient, low-cost wooden tongue depressors (6-inch length) for small quantity mixes.
Jiffy Mixers	Heavy duty, stainless steel, industrial/commercial mixer, specially designed for tough-to-mix, high-viscosity rubbers. Jiffy mixers fit all 1/4 to 3/4-inch chucked power tools. Two sizes available.
Turbo Mixer	Patented, high-efficiency mixers fit any power drill with 1/2-inch chuck and mix more efficiently than Jiffy Mixers. Options available for 1/2-gallon mixes to 55-gallon mixes.



Turbo Mixer

## Brushes

PRODUCT	DESCRIPTION
Acid Brushes	Tin-handle, disposable ½-inch wide brushes with 100% horsehair bristles. Excellent for making small brush-on molds.
China Bristle Brushes	Wooden-handle chip brushes. 100% China Bristle available in 1 and 2-inch widths. Use to brush on liquid rubber, plastic or release agent.

## Clay

PRODUCT	DESCRIPTION
Poly Plasticine Clay	A non-hardening, sulfur-free modeling clay. Good for sculpting as well as reusable caulk for mold boxes and mold shells to make them liquid tight.



Brushes



Poly Paddle





## PlasPak Spray Equipment

PRODUCT	DESCRIPTION
PlasPak Spray Guns & Regulators	A portable spray-gun and regulator designed to spray 1A:1B or 1A:10B rubbers and plastics. Only recommended for certain products. Please call Polytek® for details.
PlasPak Cartridge Assemblies	Single-piece molded plastic cartridges for 1A:1B and 1A:10B mix-ratio rubbers and plastics. For use with PlasPak Spray Guns.
PlasPak Static Mixers	Disposable static mixers for use with PlasPak Spray Guns.

## Drum Handling Equipment

PRODUCT	DESCRIPTION
Drum Adapter for Drierite® Cartridges	An adapter to accommodate Drierite® cartridges on 55-gallon drums.
Drierite® Cartridges	With the help of the drum adapter, mount Drierite® cartridges to 55-gallons drums so that air entering the drum during dispensing is dry. Exposure to moisture can significantly decrease product shelf life of polyurethane products.
2" Oil Gate Valve	Mount this 2" oil gate valve to 55-gallon drums for manual dispensing.
Standard Bronze Drum Bung Wrench	Use this bung wrench to remove drum caps from 55-gallon drums.





Polytek® Development Corp. is a leading manufacturer of specialty polymers including polyurethane elastomers and casting resins, silicone, latex, thermoplastic elastomers, and epoxies. These systems are used primarily in mold making and casting applications in industrial, construction, entertainment, fine arts and technology sectors.

Polytek®'s collective mission is to design and manufacture the highest-performance line of liquid rubbers and related casting products and to provide our customers with unmatched, industry-setting technical support and customer service. In doing so, we are committed to helping our customers realize the greatest value from the use of our products and resources.

**In the end, our success is defined by theirs.**

---

**LOCATION**

55 Hilton Street  
Easton, PA 18042

**PHONE**

(800) 858-5990  
(610) 559-8620

**EMAIL**

[sales@polytek.com](mailto:sales@polytek.com)

**WEBSITE**

[www.polytek.com](http://www.polytek.com)

