Poly LiteCast™ & Poly Plasti-Flex™ Liquid Plastics

Rigid & Flexible Polyurethane Casting Resins That Feel Like Wood

DESCRIPTION: Poly LiteCast™ and Poly Plasti-Flex™ Liquid Plastics are used to produce decorative moldings, tools, models, patterns, fixtures, duplicate masters and more. These products reproduce minute detail from molds and can be drilled, sanded and machined. Use Poly LiteCast Liquid Plastic when a rigid plastic with a wood-like density is required. Use Poly Plasti-Flex to produce slightly flexible parts such as decorative trim molding, props, special effects castings, and impact-resistant items.

MOLD PREPARATION: In order to ensure good release of the cast part, molds must be properly prepared before applying Poly LiteCast and Poly Plasti-Flex Liquid Plastics. Typically, polyethylene and silicone rubber molds (i.e., TinSil® 70-30) do not require a release agent, but a barrier coat may extend the mold life. Rubber (i.e., latex or polyurethane) and metal molds must be clean, dry and coated with a suitable release agent (i.e., Pol-Ease® 2300 Release Agent) before applying these plastics. To avoid damaging a valuable mold, make a trial casting on a surface made of the same material as the actual mold.

MIXING AND CURING: Prior to mixing, be sure that molds and equipment are ready to use. Parts A and B should be above 60°F (15°C). For Poly LiteCast, stir both Parts A and B before use since over time the filler separates and rises to the top. For Plasti-Flex, only the Part B needs stirring. Normally, gentle mixing is all that is required. Use metal or plastic mixing vessels and spatulas to avoid introducing moisture with paper or wood tools. Weigh Parts A and B into a mixing container (i.e., polyethylene pail). Mix immediately, thoroughly scraping sides and bottom for one minute. Pour mix into the mold as quickly as possible.

If a paste-like consistency is needed for brush-on or trowel application, add Poly Fiber II to the mixed A and B to thicken the mix.

PHYSICAL PROPERTIES

	LiteCast	Plasti-Flex
Mix Ratio, By Weight	1A:1B	35A:100B
Hardness	D55	~A90
Pour Time, 1-lb mix (min)	5	3
Demold Time (varies with 15X)	1 hr	~15 min
Specific Gravity	0.78	0.81
Color, Cured	Tan	Tan
Viscosity, 2 min after mix (cP)	2,480	3,000
Specific Volume(in^3/lb)	35	34
Shrinkage Upon Cure (in/in)	Very Low*	Very Low*

*Shrinkage is primarily caused by gelling while hot then cooling. Parts that cure with minimal temperature rise exhibit minimal shrinkage.

Poly LiteCast™ & Poly Plasti-Flex™ Features

- Safe & easy to machine (contains no silica)
- Reproduces fine detail
- Variable working time with Part X
- Tough and hard plastic; but not brittle

Leave casting in the mold until thoroughly cured. Parts demolded too soon may be subject to deformation. Heat, including prewarmed molds, accelerates curing. Low temperatures slow curing and extend demold time.

ADDITIVES: To accelerate the cure, add Part 15X Catalyst. Add Part 15X to Part B, then mix with Part A. A few drops of Part 15X in a one-pound mix of liquid plastic speeds the cure significantly. When using Part 15X, exotherm (heat of reaction) increases which can result in shrinkage of the cast part. Experiment to determine the right amount of Part 15X to use, but never use more than 1% of the total weight of the mix or the final physical properties may be affected.

FINISHING: These Poly Plastics yellow and chalk when exposed to sunlight. For exterior use, castings should be painted or sealed. If they are to be painted or coated, adhesion of the coating should be checked carefully over 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.

CLEAN UP: Tools should be scraped clean before the plastic cures. Denatured ethanol is a good cleaning solvent, but it must be handled with extreme caution owing to its flammability and health hazards. Work surfaces can be waxed or coated with Pol-Ease 2300 Release Agent so hardened plastic can be removed.

SAFETY: Before use, read product labels and Material 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. Poly Plastics are not to be used where food or body contact may occur. Poly Plastics burn readily when ignited. Care should be taken with sanding dust and other easily ignitable forms of these products.

STORAGE LIFE: Unopened containers stored at room temper-

ature (60-90°F/15-32°C) have at least a 6 month shelf-life. Once containers of Parts A and B are opened, they should be used completely or resealed tightly since atmospheric moisture contamination can degrade product integrity causing excess foaming, pressure build up and poor cure properties. To improve shelf stability of the liquid products, spray Poly Purge™ into containers before resealing to displace moist air in opened containers.

DISCLAIMER: The information in this bulletin and otherwise provided by Polytek® 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.

Poly LiteCast Packaging

Unit Weight (lb)	Containers			
	Size		Net Weight (lb)	
	A	B	A	B
3	1 qt	1 qt	1.5	1.5
12	1 gal	1 gal	6.0	6.0
60	5 gal	5 gal	30.0	30.0

Poly Plasti-Flex Packaging

Unit Weight (lb)	Containers			
	Size		Net Weight (lb)	
	A	B	A	B
8.1	1 qt	1 gal	2.1	6.0
38.5	1 gal	5 gal	10.0	28.5
192.5	5 gal	5 x 5 gal	50.0	142.5

ACCESSORIES

Part 15X Catalyst
1 oz, 1 pt (1.0 lb), 1 gal (8.0 lb)

Poly Fiber II
3-lb bag

Pol-Ease® 2300 Release Agent
12-oz can, case of 12 cans

Pol-Ease® 2500 Release Agent
(Cleanble/Paintable)
12-oz can, case of 12 cans

Poly Purge™
10-oz can, case of 12 cans

55 Hilton Street, Easton, PA 18042 • (800) 858-5990 or (610) 559-8620 • fax (610) 559-8626 • www.polytek.com • sales@polytek.com