

# EASYFLO™ SERIES

## Polyurethane Liquid Plastics

### Super-Low Viscosity Casting Resins -- Pour or Spray, Set Fast

**DESCRIPTION:** EasyFlo™ Liquid Plastics are excellent for casting decorative objects, production parts, tools, models, duplicate masters and more. EasyFlo systems consist of two parts (A and B) that, after mixing, quickly cure to tough polyurethane plastics. Since Parts A and B are super-low viscosity liquids, they are easy to mix, provide excellent detail penetration, and make bubble-free castings without vacuum degassing or pressure casting techniques. Rapid demold times make EasyFlo ideal for high-volume, fast-cast applications. Choose the EasyFlo Liquid Plastic that's best for your application:

- **EasyFlo 60** pours like water, so making bubble free parts is easy and fast (2-min working time, 10-min demold).
- **EasyFlo 95** is useful when longer working time (5 min) is needed to complete a pour. For thin parts, demold time is longer and molds may need to be preheated (100-120°F) to reduce surface bubbles and speed demold.
- **EasyFlo 120** is best for rotocasting or slush casting to create hollow parts. This is a tough plastic - hollow parts are nearly unbreakable!
- **EasyFlo Clear** cures to a pale amber color and is often used with PolyColors to make transparent, colored castings. Also, it's excellent in applications using fillers intended for visual appeal (e.g., bronze).
- **EasyFlo 100FR & Spray FR** are pourable/sprayable, UL-94 (V-0) fire-retardant plastics. Use the portable Plas-Pak sprayer or higher volume spray-equipment to apply hardcoat over foam or for sprayed-up hollow castings

#### FEATURES

- Easy 1:1 mix, by volume
- Rapid demold
- Reproduces finest detail
- Tough, non-brittle formula
- Excellent bubble release
- Reduced need for pressure or vacuum
- Pourable and sprayable formulations available

All EasyFlo products can be easily color-cast, painted or machined. Most EasyFlo products can be filled for various cold-cast techniques such as cold-cast bronze, marble, etc. Thin-walled castings made from EasyFlo have surprising strength and lack the brittleness typical of other low viscosity, fast polyurethane resins.

**MOLD PREPARATION:** EasyFlo Liquid Plastics reproduce minute detail from molds and patterns, but may stick or foam when poured on improperly prepared surfaces. Perform a trial casting on a surface finish similar to the final mold in order to avoid damaging a valuable mold. Polyethylene and silicone rubber molds (e.g., Polytek's TinSil® 70 and PlatSil® 71 and 73 Series Silicone Rubbers) do not require a release agent, but a barrier coat may be helpful. Latex, polyurethane rubber (i.e., Poly 74 Series) or metal molds must be dry and require a coat of a suitable release agent (e.g., Pol-Ease® 2300 Release Agent).

#### PHYSICAL PROPERTIES

EasyFlo™ Product	60	95	120	Clear	100FR	Spray FR
Mix Ratio, By Volume	1A:1B	1A:1B	1A:1B	1A:1B	1A:1B	1A:1B
Mix Ratio, By Weight	100A:90B	100A:90B	100A:90B	100A:90B	1A:1B	100A:90B
Hardness, Shore D	65	65	65	72	65	75
Pour Time (min; 1-lb mix)	2-2.5	5	2-2.5	2-2.5	2-2.5	NA - spray only
Demold Time (min)	15-30	20-60	15-30	15-30	15-30	5-10
Specific Gravity	1.03	1.03	1.03	1.03	1.10	1.16
Cured Color	White	Off White	White	Amber	Off White/Tan	Off-White
Initial Mixed Viscosity (cP)	60	95	120	110	120	250
Specific Volume (in <sup>3</sup> /lb)	26.9	26.9	26.9	26.9	25.2	23.9
Maximum Exotherm (°F) (For a 1-lb mass)	230	206	200	208	199	199

**MIXING:** Before use, be sure that Parts A and B are at room temperature and tools and molds or models are ready to go. Surfaces and air temperature should be above 60°F during application and for the entire curing period. Use metal or plastic mixing vessels and spatulas to avoid introducing moisture (i.e., with paper or wood tools). Measure equal volumes of A and B into a mixing container such as a polyethylene pail. Mix immediately, thoroughly scraping sides and bottom for one minute. Pour mix into mold cavity as quickly as possible. Once the containers of Parts A and B are opened, they should be used or resealed tightly as atmospheric moisture contamination may cause foaming of the plastic. Poly Purge™, a dry-gas aerosol, can be sprayed into opened containers of EasyFlo to lengthen shelf life once opened.

**SPRAYING:** Consult the “Plas-Pak Spray Systems” Technical Bulletin before spraying EasyFlo Spray FR.

**CURING:** Castings should be allowed to remain in the mold until thoroughly cured. Parts demolded too soon may be subject to deformation. Use of pre-warmed molds hastens curing. Low temperatures slow the curing and extend demold time.

**ADDITIVES:** Part 15X is a powerful catalyst that increases the speed of curing. Stir Part 15X into the Part B before adding Part A. A few drops in a one-pound mix speeds the cure significantly. Exotherm (heat of reaction) and thus shrinkage on cooling may be increased. Experiment to determine the right amount of Part 15X to use but never use more than 1% Part 15X of the total weight of the mix or the final physical properties may be affected.

Fillers can be added to EasyFlo products to vary appearances and densities. Microballoons can be added to create a wood-like, lower density material. Bronze powder, calcium carbonate, fly ash, sand, granite or other stone-like fillers can be added as desired. Usually, fillers should be added after A and B are mixed. It is imperative that any filler be thoroughly dried before mixing with the resin.

**FINISHING:** Cured EasyFlo products may yellow slightly and chalk when exposed to excessive sunlight and should be painted or sealed for exterior use. Castings can be drilled, sanded and machined. If they are to be painted or coated, adhesion of the coating should be checked carefully over a period of time to determine that it is satisfactory for the intended use. If mold release is thoroughly removed by detergent washing, most oil paints work well. An autobody primer sprayed onto the clean casting and allowed to cure overnight may help paints adhere better.

**CLEAN UP:** Tools should be scraped clean before the plastic is hard. 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 cured rubber 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. Most Poly Plastics burn readily

<b>EasyFlo™ Packaging</b>			
Product(s)	Part A (lb)	Part B (lb)	Unit
EasyFlo 60, 95, 120, & Clear	1 qt (2.0)	1 qt (1.8)	3.8 lb
	1 gal (8.0)	1 gal (7.2)	15.2 lb
	5 gal (40.0)	5 gal (36.0)	76.0 lb
	55 gal (450)	55 gal (405)	855 lb
EasyFlo 100FR	1 qt (2.25)	1 qt (2.25)	4.5 lb
	1 gal (9.0)	1 gal (9.0)	18.0 lb
	5 gal (45.0)	5 gal (45.0)	90.0 lb
EasyFlo Spray FR	1 gal (10.0)	1 gal (9.0)	19.0 lb
	5 gal (50.0)	5 gal (45.0)	95.0 lb

<b>ACCESSORIES</b>
<b>Barrier PF</b> 1 qt (2 lb), 5 gal (50 lb)
<b>Bronze Powder</b> 2 lb, 10 lb, 110 lb
<b>Part 15X Catalyst</b> 1 oz, 1 pt (1.0 lb), 1 gal (8.0 lb), 5 gal (40 lb)
<b>Poly Fiber II</b> 3-lb pail
<b>Pol-Ease® 2300 Release Agent</b> 12-oz can, case of 12 cans
<b>Pol-Ease® 2500 Release Agent</b> (Cleanable/Paintable) 12-oz can, case of 12 cans
<b>Poly Purge™</b> 10-oz can, case of 12 cans
<b>PolyColors</b> <b>White, Red, Green, Yellow, Blue, Brown &amp; Black</b> 4-oz bottle (0.25 lb), 1.0 pint (1.0 lb)

when ignited. Care should be taken with sanding dust and other easily ignitable forms of these products.

**STORAGE LIFE:** At least six months in unopened containers stored at room temperature (60-90°F).

**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.

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