

DESCRIPTION: PolyPoxy® Casting Epoxies are pourable, aluminum-filled, heat-resistant, room temperature curing (RTV) systems that are typically used for heat-resistant tooling, vacuum form tools, injection and compression molds, RTM and RIM molds, and matched dies. Product options include:

PolyPoxy® 7136 is a heat-resistant casting epoxy that can be cast to a thickness of 3/4" in non heat-conductive molds and 1.25" in heat-conductive molds. For service temperatures between 150°F and 300°F, a post-cure is required.

PolyPoxy® 7136-2 is a heat-resistant casting epoxy that may be cast up to a thickness of 2" in non-conductive molds or 3" in conductive molds. For service temperatures between 150°F and 300°F, a post-cure is required.

BEFORE USE: Thoroughly read Safety Data Sheets, product labels and the "SAFETY" section in this Technical Bulletin.

WARNING: THE EPOXY CURE REACTION IS VERY EXOTHERMIC. Do not cast in thicknesses greater than the recommended maximum thickness for each product. **DOING SO CAN CAUSE WARPING AND EVEN A FIRE.** Exothermic reactions can be greater when working in temperatures higher than the recommended mixing/application temperature range and when the epoxy is in a mass in the mixing container. It is recommended to only mix as much epoxy as will be needed for the casting. Because epoxy is especially exothermic in masses, it is important to work quickly to get the epoxy out of the mixing container and onto the desired surface.

PREPARATION: PolyPoxy Casting Epoxies are adhesives and bond to many surfaces. If adhesion is not desired, surfaces must be made non-porous with a suitable sealer, such as PVA, lacquer or other coatings. A suitable release agent must then be applied to the sealed surface prior

PRODUCT LINE FEATURES

- Room-temperature curing (RTV)
- Aluminum-filled, heat-resistant formulas
- Product options to cast from 3/4" to 3" thick

to pouring the casting resin into the mold. Silicone-based releases like Pol-Ease® 2300 Release Agent work well.

Before use, be sure that Resin and Hardener are at room temperature (73°F) and that all tools are ready. Surface and air temperatures should be between 60°F and 80°F during mixing, application, and for the entire curing period.

Elevated temperatures will reduce pot life, while lower temperatures will slow the cure. Very low temperatures could possibly prevent the cure entirely.

MIXING: Read product labels to determine the correct mix ratio and if pre-mixing of the Resin or Hardener component is required.

It is recommended to only mix as much epoxy as will be needed for the casting. Because epoxy is very exothermic, especially in masses, it is important to work quickly to get the epoxy out of the mixing container and onto the desired surface.

Accurately weigh the Resin and Hardener components into clean plastic, metal or wax-free paper containers. Mix thoroughly, scraping the sides and bottom of the mixing container repeatedly. Pour mix into the mold cavity as soon as it is thoroughly mixed.

CURING: Allow epoxy to cure at room temperature for the specified

PHYSICAL PROPERTIES

PolyPoxy® Casting Product	PolyPoxy® 7136	PolyPoxy® 7136-2
Mix Ratio By Weight	100 Parts Resin : 7 Parts Hardener	100 Parts Resin : 9 Parts Hardener
Mix Ratio By Volume	100 Parts Resin : 12 Parts Hardener	100 Parts Resin : 16 Parts Hardener
Shore Hardness	D90	D90
Cured Color	Gray	Gray
Mixed Viscosity (cP) (after 2 min)	15,000	13,500
Maximum Casting Thickness	3/4" in non heat-conductive molds 1.25" in heat-conductive molds	2" in non heat-conductive molds 3" in heat-conductive molds
Pot Life (1/2 lb mass)	85 min.	180 min.
Demold Time	24 hr.	24 hr.
Total Cure Time	7 days	7 days
Specific Gravity	1.69	1.67
Specific Volume (in ³ /lb)	16.4	16.6
Tensile Strength* (psi)	7,800	7,900
Flexural Strength* (psi)	8,600	8,900
Compressive Strength* (psi)	29,000	27,600
Heat Distortion Temperature* (°F)	305	314

*Post-cure properties.

demold time listed in the “Physical Properties” table in this Technical Bulletin. Parts demolded too soon may be subject to deformation. Low temperatures will slow the cure and extend demold time. Thin castings or thin sections of castings will take longer to cure than thick castings or thick sections of castings.

Although a part may be demolded after the specified demold time, ultimate physical properties will not be achieved until after 7 days at room temperature.

POST-CURING: Post curing for applications requiring temperatures from 150°F to 300°F can be accomplished in an oven or in use by gradual heat rise: 2 hours @ 150°F, plus 2 Hours @ 250°F, plus 2 hours @ 300°F.

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

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

SAFETY: Before use, thoroughly read Safety Data Sheets and product labels. Follow safety precautions and directions.

Resin: Keep out of reach of children. Avoid breathing fumes, vapors or mists. Use with adequate general or local exhaust ventilation to minimize exposure levels. If needed, a NIOSH-approved respirator with organic vapor cartridge may be used. Wear impervious gloves, such as butyl rubber or nitrile rubber. Wash thoroughly with soap and water after handling. Contaminated work clothing should not be allowed outside of the workplace. Take off contaminated clothing and wash it before reuse. If skin rash or irritation occurs, get medical help. Wear eye protection, such as chemical safety glasses/goggles. If in eyes, rinse cautiously with water for several minutes, removing contact lenses if present and easy to do. If eye irritation persists, get medical help.

Hardener: Keep out of reach of children. Do not eat, drink or smoke when using this product. Do not breathe fumes, vapors or mists. Use with adequate general or local exhaust ventilation to minimize exposure levels. If needed, a NIOSH-approved respirator with organic vapor cartridge may be used. If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. Wear impervious gloves, such as butyl rubber or nitrile rubber. Wash thoroughly with soap and water after handling. Contaminated work clothing should not be allowed out of the workplace. Take off contaminated clothing and wash it before reuse. If skin rash occurs, get immediate medical help. Wear eye protection, such as safety glasses/goggles. If in eyes, immediately rinse with water for several minutes, removing contact lenses if present and easy to do. Get immediate medical help. If swallowed, rinse mouth and do not induce vomiting. Get medical attention immediately. If spilled, collect spillage and avoid release to the environment.

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DISCLAIMER: The information in this bulletin 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.

ACCESSORIES

Sealers & Release Agents:

Pol-Ease® 2300 Release Agent

Poly PVA Solution (Green or Clear)

Product Life Extender:

Poly Purge Aerosol Dry Gas