



# THE COMPLEAT SCULPTOR

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## Polyoxy® Resins & Poly Cures High-Strength, Epoxy Plastics

**DESCRIPTION:** Polyoxy® Resins and Poly Cure Hardeners are liquids that, after mixing in proper ratio, cure at room temperature to high-strength plastics. Resins can be cured with various curatives enabling users to select the best system for a particular use. The mix ratio for each curing agent and resin blend varies. For satisfactory results, carefully weigh the components.

**Polyoxy® 1010** is a clear resin for use with fast Poly Cure 1212 for small castings such as bonded bronze or with fiberglass or fillers for lay-up and mother molds. Use with Poly Cure 1220 for decoupage clear coatings, glass bonding and many other uses where a nearly colorless, clear, low viscosity resin is required.

**Polyoxy® 1030** is an aluminum- and mineral-filled resin for lay-up or small castings when cured with Poly Cure 1212. For larger vacuum forming molds and other tooling uses, cure with Poly Cure 1230. Parts made with Polyoxy 1030 can be machined, drilled and burnished with steel wool to a pewter finish.

### APPLICATIONS

**Polyoxy® 1010 + Poly Cure 1212**  
Bonded bronze

**Polyoxy® 1010 + Poly Cure 1220**  
Decoupage coatings and glass bonding

**Polyoxy® 1030 + Poly Cure 1212**  
Small castings and tooling applications

**Polyoxy® 1030 + Poly Cure 1230**  
Larger vacuum molds

### PHYSICAL PROPERTIES

	1010	1010	1030	1030
	1212	1220	1212	1230
Parts Cure per 100 of Polyoxy	15	85 (1:1 by vol)	6	15
Mixed Viscosity (cP)	3,000	3,000	10,000	5,000
Pour Time, 150 g mix @ 77°F (min)	25	30	30	120
Demold Time @ 77°F (hr)	4-8	48	24	24
Maximum Casting Thickness (in)	0.5	1.5	3.0	8.0
Shore D Hardness	95	80	98	95
Specific Gravity	1.13	1.07	1.70	1.70
Specific Volume (in <sup>3</sup> /lb)	24.5	26.0	16.3	16.3
Density (lb/in <sup>3</sup> )	0.0408	0.0386	0.0614	0.0614

**SURFACE PREPARATION:** Polyoxy Resins are adhesives and bond to many surfaces. If adhesion is not desired, surfaces must be made non-porous with a suitable sealer, such as wax, PVA, lacquer or other coatings. The surfaces must then be coated with a release agent such as Pol-Ease® 2300 Release Agent. Poly 74 Series rubber molds require only a light, thorough coating of Pol-Ease 2300 for excellent release of epoxy castings. Perform a small test cure.

**MIXING:** Polyoxy and Poly Cure must be mixed in the ratios shown below. Mix ratios are by weight except for Polyoxy 1010 and Cure 1220, which can be mixed 1:1 by volume. Polyoxy and Cure must be thoroughly mixed and poured as soon as possible after mixing to ensure low viscosity and good flow. Watch a clock to avoid being caught with unused, cured material.

**BONDED BRONZE:** For bonded bronze layup or casting, add Bronze Powder to Polyoxy 1010 with Cure 1212. The mix should be at least 83% Bronze Powder added to the already mixed resin. If desired, enough Poly Fiber can be added to make the mix slightly non-sag for layup. Brush or pour a thin film or solid casting into a Poly 74 Series mold sprayed with Pol-Ease 2300 Release Agent. After several hours, when firm, lay in fiberglass mat and saturate with more mixed resin without Bronze Powder or pour the casting solid with less expensive casting resin, such as Polyoxy 1030 or Poly 15 Series Liquid Plastic. When cured, demold and rub surface with steel wool to bring up highlights. Add patina with an oil spray paint, rub off high spots and when dry, burnish with steel wool and wax if desired.

**HEAT RESISTANT CASTINGS:** Polyoxy 1030 offers good heat resistance.

**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. Poly Cure Hardeners cause severe eye and skin burns. Polyepoxy resins may cause skin irritation and sensitization (i.e., allergic skin rash). Do not let these products get in eyes or on skin. Wear personal protective equipment (e.g., gloves and safety glasses, at a minimum). Avoid breathing vapors and use only with adequate ventilation. In case of eye contact, flush with water for 15 minutes and then seek medical attention. **WARNING:** The epoxy cure reaction is very exothermic. Do not cast large masses -- doing so can result in a fire! Polyepoxy® and Poly Cure 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:** At least six months in unopened containers stored at room temperature (60-90°F). Opened containers should be tightly resealed.

**DISCLAIMER:** The information in this bulletin and otherwise provided by the manufacturer 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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