



## Product Information

### CASTING RESIN

### Polyester Casting Resin

#### Description:

Is a water-clear Polyester Resin, a perfect medium for embedding flowers, coins, metals, minerals, etc. In can be fashioned into a variety of gift items such as desk sets, costume jewelry, paperweights. Most any material can be used for embedments that are relatively free of moisture or which can be dehydrated. This is the ideal medium to preserve and encase biological specimens, seashells, flowers, and leaves. Commercial molds are also available in an almost endless variety of forms and styles or you can make your own. The field is almost unlimited.

#### Uses:

Embedded items, solid spheres, mold castings, and preserving items.

Several types of molds may be used for casting including glass, latex, natural rubber, vinyl plastisol, metal, silicone, ceramic, polyethylene, and polypropylene. Some molds may require a mold release agent to prevent sticking.

#### Colors:

You can add in universal paint colorants to get your desired color

#### Packaging:

Casting resin is offered in pints, quarts, and gallons kits

#### Inspection:

There are several things that can be done when a casting has a surface cloudiness. The first involves sanding with 120 grit sandpaper then 400 grit sandpaper and then buff (with buffing compound or jewelers rouge) until your casting resin shines again. You can also slightly sand your casting and then finish with a solvent based clear acrylic spray to make the surface even shinier.

#### Molds:

The best molds are made from HDPE (High Density Polyethylene plastic). Using molds made of HDPE result in the clearest castings. Tupperware and Rubbermaid are made from HDPE. The ratio of catalyst vs. casting resin shown on the label has been formulated for these types of molds. Another advantage to using these molds is that no mold release agent is required.

Latex or rubber mold compounds, RTV compounds, silicone and polysulfide compound bring their own set of advantages and disadvantages. A mold release agent is not needed with these types of molds, as they are very flexible. The biggest disadvantages to flexible molds are that castings come out tacky to help the curing process. Either increase the heat in the area the casting is curing in or increase the catalyst to intensify the chemical heat. To heat the area the casting project is in, you can use a regular oven, making sure you keep the temperature below 100°, or you can build a light bulb oven using a cardboard box and a light fixture with a 60-100 watt light bulb (no higher due to fire risk). After pouring your castings, place them in the oven for at least 12 hours. If the casting is still sticky return to the oven until dry. Another way to aid the curing process is to increase your catalyst amount to one or two drops per fluid ounce of resin depending on the thickness of the casting. Experiment to get the best results.

When using glass or metal molds, a mold release agent is necessary. Use either a commercial mold release agent like PCA mold release and follow the directions on the bottle or use a small amount of Pam cooking spray on a paper towel and wipe inside the mold. Plaster, cement, and any porous type molds need to be lightly sealed with paste wax. The amount of catalyst should also be reduced.

#### Mixing and Cure Times:

	SLOW SETTING 2 HRS			MEDIUM SETTING 45 MIN			FAST-SETTING 20-25 MIN		
Total Thickness	1/8"	1/4"	1/2"+	1/8"	1/4"	1/2"+	1/8"	1/4"	1/2"+
Drops of catalyst per ounce	5	4	3	7	6	5	9	7	6

#### Application:

Pour the approx amount of casting resin into a paper cup. Add approx two or three drops of Aristocrat Dye per ounce of resin and stir well. Add drops of catalyst to resin. Using a stir stick, mix resin and catalyst thoroughly for one minute. Scrape the sides and the bottom of cup to insure proper mixing. Pour into a clean, dry mold. After resin gels, place your

embedment face down. Pour additional layers as desired. To remove casting from mold, grasp the mold by the edges, invert over a clean piece of plastic wrap and flex the mold.

\* Another important thing to remember with casting resin is the thicker the layer, less catalyst is needed. The thinner the layer, the more catalyst is needed.

- Casting resin curing is also affected by the type of mold, the amount of catalyst and additives like pigments, dyes and surface curing agents.
- Never place one of a kind objects in casting resin, because once in, it is almost impossible to remove.

**Clean Up:**

Use acetone to clean up tools

**Precautions:**

Avoid inhalation, ingestion, eye and skin contact. Wear protective gloves and goggles. Do not wear contact lenses. Do not take internally. Use only in adequate ventilated areas. Use window exhaust fan or other suitable equipment to remove vapors away from the work area. Wash with soap and water after use. Keep container tightly closed when not in use.

**Limitations:**

- Casting resin is sensitive to environmental conditions such as humidity, heat, and cold. Work only in temperatures between 65 ° and 75°. If the room you are working in is over 75°, it will accelerate the curing and can cause yellowing, and or cracking. Humidity can cause cloudiness in your castings.
- For temperatures below 75° add approx one drop of catalyst per ounce. Over 75° reduce catalyst by one or more drops. In rainy or humid weather, GEL time may be slower.

TYPICAL RESIN PROPERTIES @ 77°F	Results
Brookfield Viscosity @ 20 rpm	400-600
Brookfield Spidle No. (RVF)	2
Catalyst % DDM-9	1
Gel Time minutes: seconds	14:00-25:00
Gel Time to Peak minutes: seconds	20:00-35:00
Peak Exotherm °F (°C)	240-280 (115-138)
Solids %	62-64

MECHANICAL PROPERTIES OF NEAT CURED RESIN		Results	
Property:	ASTM TEST METHOD	Psi	Mpa
Flexual Strength	D-790	14,170	98
Flexual Modulus	D-790	6.18 x 10 <sup>5</sup>	4262
Tensile Strength	D-638	8,580	59
Tensile Modulus	D-638	6.47 x 10 <sup>5</sup>	4462
Tensile Elongation, %	D-638	1.5	1.5
Heat Distortion Temperature	D-648	154°F	
Hardness, Barcol 934-1	D-2583	38-44	