

Glass-Clear Polyester Resin Applications and properties

- This is a clear, two-part polyester resin used to encapsulate a wide variety of visual articles e.g paperweights, vases, logos, key fobs, promotional items etc.

Instructions for use :

1. Whether laminating or clear **casting** you should work in an ambient temperature around 20°C, as this ensures that the resin will cure correctly. Resin will not cure adequately below 15°C, and at temperatures above 30°C, they will cure too quickly! You must not use oil heaters or electric fires, so maintain the temperature with convector heaters, ‘Dimplex’ radiators, or similar. You will need trestles to support the mould at a comfortable working height for small jobs; of course, you can use a normal workbench or trestle table. For protection cover with polythene, **polyester film** or brown wrapping paper.

THE CAN LIDS MUST BE REPLACED AND TIGHTENED AS SOON AS THE DESIRED QUANTITY OF RESIN AND CATALYST HAS BEEN POURED OUT

2. For optimum clarity, air bubbles introduced by hand mixing and catalysing need to escape quickly. Pre-warm the resin to approx. 25°C then add a small amount of catalyst (approx. 1-2 % by volume, i.e 10-20ml activator to 1kg of resin). A plastic teaspoon, not metal can also be used. 1 tsp. = 5ml.

RESIN WEIGHT						
Addition of Catalyst (ml)	50g	100g	250g	500g	1kg	5kg
1%	0.5	1	2.5	5	10	50
2%	1	2	5	10	20	100
3%	2	3	7.5	15	20	150

Thorough mixing of catalyst into resins is very important. Also the correct additions should be observed to maintain good results. Dispensers are advised for accuracy. The table below gives the correct ratios of catalyst to resin and gelcoat by weight. 1% is considered a slow mix, 2% is ideal, 3% is a fast mix. Additions outside these bands in not advisable for proper curing, in fact adding more than 4% may result in a failure to cure. The pot life of these mixes is also determined by temperature. The higher the temperature the faster the cure. As a general guide 2% addition at 20°C gives 15-20 minutes pot life. The resin will always cure quicker if left in a mass such as the mixing bucket or in castings.

3. **Mix thoroughly for 2-3 mins and pour.** The hardening process begins immediately, so only catalyze a working quantity or your mixing containers will soon be full of solidified resin.

If pigments are being used these should be stirred into the resin before adding the catalyst. Add up to 10% of pigment, depending on the depth of colour required. To maintain consistent colour on a large project, it is often a good idea to pigment all the resin and then decant working quantities to be catalyzed as required.

Once catalyzed the resin gradually cures, taking on a jelly-like consistency in about 10-20 minutes before becoming hard in about 30-40 minutes at room temperature (about 20°C). The curing process generates heat (known as 'exotherm') within the resin. Too much catalyst or large volumes of resin increase this heat, so a thick laminate or a large casting should preferably be built up in stages.

4. If air evacuation (bubbles escaping) fails to be complete before gellation (resin hardening), simply adjust the next mix via resin temperature (upwards) and/or reduce the amount catalyst slightly to allow a longer open time for bubbles to escape.
5. Once the resin is poured, any air bubbles present can be removed by passing hot air across the surface. Bubbles can be popped with a pin or similar implement as they rise to the surface.
6. Leave the resin to cure.

Ensure good industrial hygiene is observed.

This includes the use of gloves as well as adequate ventilation in the working area.

Avoid skin and eye contact.