Resin Casting Facts and Tips for Beginners

Resin casting is a super popular way to be creative while making your own unique blanks for turning! Common applications include hybrid blanks, pen and handle blanks, bowl blanks, etc. Great for adding a pop of color to your work, using wood that you might not have another use for, filling voids etc.

Types of resin

- Epoxy resin (good for beginners, longer cure time, does not require a pressure pot) Commonly used in charcuterie boards, river tables etc
- Polyurethane resin (quicker curing, great for pen blanks, handle blanks etc. A large majority of maker blanks are made from urethane resin)
- Polyester resin (fast cure, SUPER strong smell, brittle blanks prone to chipping but does polish really nicely) These blanks are commonly referred to as “acrylic blanks”
- UV resin (stays viscous until cured with UV light) Great alternative to CA glue for inlay work with stone or opal, ring turning etc.

Tools & Supplies

- Silicone or HDPE molds (or DIY mold options- we have used a lot of protein powder containers)
- Mold release spray (Stoner)
- Scale , mixing cups (unwaxed paper cups are nice for pouring as you can bend them), stir sticks
- Pressure pot (for bubble-free resin)
- Safety gear (gloves, respirator, eye protection)

Mixing & Pouring Resin Tips

- Ensure resin-to-hardener ratio is right on for a successful cure (we always use a scale)
- When mixing colors (mica powders, pigments/dye) pull your stir stick out and see if you can see through the resin running off your stick- if you can see the stick, you might need more color for a solid pour.
- If you are trying to get red with any mica powder, it can be helpful to add in a few drops of red dye to your red to avoid a pink tinted final cure (we have learned this one the hard way lol)
- Make sure you scape the sides and the bottom when you stir.

Turning & Finishing Resin Blanks

- To prevent chipping or cracks carbide negative rake tools can be really helpful
- Always wet sand for the best finish and start with a high grit! We start with 600 fine grit automotive grade sand paper to get tool marks out. (Going lower will be sanding scratches into your piece) After 600/800 move to polishing. We like Zona paper as it starts at 600 and ends at 22,000. Polish pads can work well too.

Notes:

Wood Stabilizing Basics

Stabilizing wood is a great way to make unusable wood beautiful and ready for the lathe! It helps prevent cracking, improves quality and durability etc. Common uses include pen blanks, bowl blanks, hybrid blanks, knife scales etc

Choosing the Right Wood for Stabilization

- Soft, porous woods like spalted, punky, or burl woods are ideal for stabilizing
- Moisture content is super important! Ideally you want to be as close to zero, and definitely less than 5% moisture content for a good cure/result. Even if your wood is kiln dried, it is recommended to dry it again because humidity in the air will be in the wood if it has been sitting around your shop.

Materials & Equipment Needed

- Cactus Juice/stabilizing resin and specialized dyes for colors
- Vacuum chamber
- Vacuum pump
- Pump saver (optional)
- Oven for drying and curing (old toaster oven is common)
- Scale for measuring weight
- Gloves, safety glasses etc

The Wood Stabilization Process

Step 1: Preparing the Wood

- Cut wood to final size before stabilization
- Make sure your wood is dry! (You can use your oven at 125, periodically weighing the wood until you have consistent weight/the wood is no longer loosing water moisture)

Step 2: Soaking in Stabilizing Resin

- Activate your resin and pour into stabilizing chamber, fully submerging wood in the resin.
- Add dye for color infusion (optional)
- Start your vacuum.
- Watch for the bubbles to stop to indicate when you can stop the vacuum pump.
- Let the wood sit in the resin for as long as you ran the vacuum

Step 3: Curing the Wood

- Remove your wood and place in the oven to cure (you can wrap in foil or make sure you have a drip tray at the bottom of the oven)
- Bake at 190-200°F until resin is fully cured. You will start to see a crust form on the outside of your wood as an indicator (typically 1-2 hours per inch of thickness is a good guide)
- Do NOT keep your oven in the house (its super stinky lol) and always monitor your oven!

Notes: