

Use of Epoxy Fillers

Steve Hill of Serenity Hill made a presentation to the Guild on the use of epoxy resins in woodwork.

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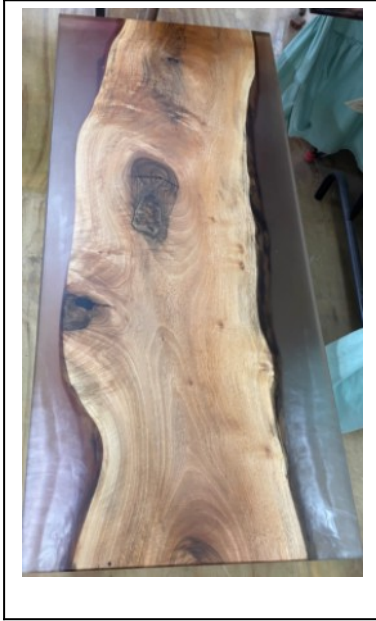
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Steve introduced us to the three types of epoxy resins which he uses and sells from his web site; Table top epoxy resin, Metallic epoxy resin and Deep Pour epoxy resin. Epoxy resins come in two parts: resin (Part A) and hardener (Part B). The A and B parts must be mixed in specific ratios to get the resin to set; 2:1 or 3:1. Steve discussed some common errors that new users of epoxies make:

Make sure to read the mixing instructions because the A and B parts of some epoxies are mixed by volume, and others by weight. Steve said his products are mixed by weight e.g. 200 gm of resin to 100 gm hardener.

- Make sure to mix both parts very thoroughly before starting your pour because otherwise you will find areas won't set. Use a mixing stick to work around all sides and the bottom of your mixing container to get both parts of the epoxy well mixed.
- Steve said any plastic container can be used to mix the epoxy; drinking cups, buckets etc. Residual epoxy can be removed and containers reused after each pour.
- Wear disposable gloves to keep epoxy off your hands.
- You only need to add very small amounts of mica powder colours ($\frac{1}{2}$ teaspoon) to achieve the result.
- To achieve a good pattern and to prevent colour mixing in your pour with mica powder colours you will find that it is better to add the powder some hours (perhaps 8 hours) after doing the pour.
- Epoxies will leak through every small hole on your wood when you do a pour, so make sure you sit your work inside a leak proof container/mould.
- Steve prefers to build purpose made HDPE epoxy mould tables/moulds for his work. Epoxy does not stick to the HDPE. He said he seals all edges of his HDPE moulds with 100% Silicone sealant.
- Even though epoxy resins are advertised as UV resistant, every clear epoxy will eventually turn yellow, and this is where the addition of colour is advantageous.
- Air bubbles can be encouraged to release from the epoxy by carefully warming the surface with a heat gun.
- You can sand and polish the finished surface once it is set, going through the sanding grades, BUT make sure you wear a respirator.
- Epoxy can be turned on a lathe BUT, again, wear a respirator to avoid inhaling the dust.



Steve's 2:1 Table top resin is designed for table tops, bar tops, wood finishes, & artwork, but typically limited to 5mm thickness. It produces a tough, high gloss, water-resistant coating. The cure time will be 24 hours. The 3:1 Metallic resin is formulated for the addition of mica powders to create colour patterns or total colour effects e.g. river top wood tables and is best suited for up to 5mm thicknesses on benchtops, jewellery and artwork. It is scratch and UV resistant with excellent air release properties. The cure time will be 24 hours. His 3:1 Deep Pour resin is a clear casting epoxy resin specially formulated for deep pour casting, encapsulating, and moulding projects with a pouring depth of 50-80mm in a single pour. It is also UV resistant and allows you to pour large deep pours with very low heat build-up (exothermic reaction). The cure time is typically 24-72 hours.