



## PREPARE FOR THE POUR

For the best-looking exposed edges, start with an oversize blank and rout the grooves out past the board's final shape. Moore does layout on the blank with a template and pencil.



**Rout the grooves.** Because the epoxy is translucent, the grooves must be cut cleanly without burning, so use a sharp bit in the router.

# Create dramatic inlays with epoxy

ADD A BIT OF PIGMENT FOR A BOLD INLAY STATEMENT

BY CHRISTOPHER MOORE

In 2011, I started a furnishings company called Noble Goods with the help of my wife, Molly. We wanted to explore new materials and make functional objects for the home. I had just ended a six-year stint at a company specializing in cast resin furniture, interior architectural surfaces, and decor. The furniture and home goods we wanted to make were an opportunity to combine our passion for design and woodworking with the knowledge of pourable plastics I had gained on the job.

Resin is a wonderful inlay material. You can create delicate patterns without the worry of having to cut and fit matching, delicate inlay pieces. Instead, after drawing and cutting “mortises” for the resin, just pour the resin and watch as it fills the voids. You have an unlimited choice of colors, and the resin can be as translucent or opaque as you'd like. There really are no limits on the designs possible with resin inlay. It's also a lot of fun, even magical at times.



**Build a dam.** Brush on a strip of furniture wax about  $\frac{1}{4}$  in. from the groove, following the contour of the overall design but not dipping between close-set grooves (top). Next, lay down a bead of pure silicone caulk, like GE Type 1, in the middle of the wax. Blue tape, when pressed firmly to the wood, makes a good dam at the ends of grooves that run out the board's edge (bottom). Wait for the caulk to dry before pouring the epoxy.



## STEADY FLOW FILLS THE GROOVES

The epoxy runs into every corner of the grooves, so let it find them on its own. A consistent pour speed is the way to go.



**Mix the two parts.** Moore uses a digital scale, because mixing by weight is more accurate than mixing by volume.

I have seen some dramatic failures with resin inlay, both my own and those of friends. Improper setup times, incomplete hardening, bubbles, shrinkage, colors gone wrong—all are potential pitfalls. But they can be avoided. I'll show you how to mix resin (I prefer epoxy) and add color to it, as well as demonstrate how to pour it cleanly and clean up after it has cured.

### Inlay wood with epoxy

The three most common types of resin are polyurethane, polyester, and epoxy. All three require careful mixing or they will set too quickly, only partially, or not at all. They each have great benefits, but I've found that epoxy is best suited as inlay material in wood. It doesn't react dramatically with the moisture present in wood, it's durable, and when sanded properly it can be finished with a variety of topcoats, wax, and food-safe oils like mineral oil. Finished in one of these ways, epoxy is beautiful. It is also relatively odorless, and less dangerous during application than other types of resin.

I use an epoxy from Entropy ([entropyresins.com](http://entropyresins.com)) most often. I mix CLR general purpose laminating resin with the CLS hardener to create an epoxy with a slow pot life (20 to 60 minutes), good clarity, and that gives off little heat as it cures. If the grooves are more than ¼ in. deep, switch to a "casting" resin for a longer pot life. Don't use quick-set epoxies intended for repairs. They tend to have a short pot life, and put off a large amount of heat as they cure. This can lead to trapped air bubbles, yellowing, and even cracking.

There are three things to consider when choosing a wood for epoxy inlay: the wood's density, the size of its pores, and how thirsty its fibers are. Wood significantly softer than cured epoxy will sand more quickly than the epoxy, and you might end up with the inlay proud of the surrounding surface. Big pores, like



**Tint and fill.** Using a toothpick or a small stick, add one drop of pigment at a time (top). Mix with a tongue depressor. After you've gotten the color right, pour the epoxy into a second cup (bottom). Don't scrape out the first cup; you want unmixed parts to stay behind in the original cup.

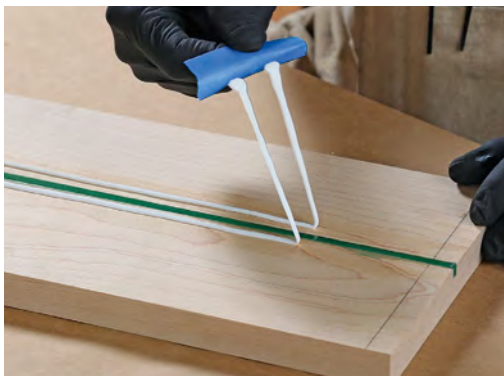


**Overfill the grooves.** Level the board first. Let the epoxy run through the grooves and rise above the surface (below). Most air bubbles will be found up in this excess, rather than down in the groove.

## CLEAN UP AND CUT TO SHAPE

A pattern like this one should take just a few minutes to sand flush to the surface. Then it's on to shaping the workpiece.

**Pull off the caulk.** Because it sits atop the wax, the caulk should come up easily without breaking apart.



**Sand it.** Epoxy is not as hard as you might think. Start with 80-grit paper and work up to 320 grit. Moore raises the grain after 220 grit, and then sands again with 220 before moving up to 320. Use good dust collection, and wear a dust mask.



**Rough out the shape.** Cut close to the layout lines drawn on the blank before the grooves were routed.



**Rout flush to the pattern.** A sharp bit creates very clean edges on the epoxy. Use double-sided tape to secure the pattern to the cutting board.



## RESIN ALL THE WAY THROUGH

By cutting deep grooves and planing off the bottom of the workpiece after the epoxy has cured, you can create objects like this box lid, with the resin pattern visible on both the top and bottom.



**Deep grooves.** Start by cutting deep grooves in an overthick blank. For some patterns Moore works without a template. After drawing the design on the blank, he follows the lines freehand, moving slowly to control the router.



**Remove the waste.** After filling the grooves with epoxy and flushing it off, Moore runs the blank through his planer to remove the bottom (take light cuts), exposing the epoxy inlay on both the top and underside.

those in red oak, can cause problems, too. The epoxy gets into them and it's very difficult to get out, which is a problem if the pores are on the surface alongside the inlay. Finally, epoxy can flow into the fibers surrounding the inlay areas via capillary action. Beneath the surface, this isn't a problem and actually makes for a stronger bond. But near and on the surface, it creates an unattractive halo of color.

What woods work well? Cherry, walnut, and maple have proven excellent for resin inlay, and they are the ones I use most often for cutting boards and cheese boards.

Resins can be tinted in a variety of ways, but I use Mixol pastes most often. The colors are intense, and come already suspended in a liquid medium that plays well with epoxy. Wet pigments are less likely to cause air bubbles in epoxy than dry pigments. There are 30 colors, and all but a few work well (avoid colors 6, 7, 10, and 18, because their color might change over time). □

*Christopher Moore is a professional furniture maker in Brooklyn, N.Y.*