

### A charred finish

BY CHRISTOPHER MIANO

In my studio I focus on traditional craft and techniques. Japanese joinery and construction have always inspired me, and through a process of trial and error I stumbled upon this method for my adaptation of *shou sugi ban*. Shou sugi ban is an ancient Japanese technique to preserve wood by charring the surface, creating a thin layer of carbon that protects the wood underneath in the same way that finish does. It was traditionally done on Japanese cedar, but I've used it with great success on oak, cherry, and walnut. My process involves charring the wood, cooling it, and finishing with a stain and then an oil.

#### Construction considerations and surface prep

For my stool I used solid red oak, because it is strong, affordable, and easily available. For the top of the stool I alternated end-grain orientation of the two parts that will be joined to avoid cupping over time and ensure a flat seat. Although the stool top is thick and has plenty of surface area for gluing, I prefer to shore up my glue-up with a few 10 x 50



**Proper, prior surface prep.** Sanding through to a very high grit isn't necessary if you are charring, but beginning with a surface that is consistent and has no glue residue is.





**Start right side down.** Miano starts charring on the legs and underside of the stool. It gives him a chance to get the flame adjusted and get into a rhythm before he chars the focal point of the piece, the top. The first pass is a light surface charring of the entire stool.



**Cool and char again, repeat.** After the stool is completely cool, torch it again. That gets you to a deeper level of charring. Cool the piece overnight in a safe place, and char a third time. You can stop at the level of charring you like, but Miano works to a deep alligator crackle appearance. He uses a SeeSii 500,000 BTU torch connected to a propane tank. He keeps a small Bernzomatic propane torch nearby to relight it in case it goes out.

## To stain or not to stain



**Dust it off.** After charring, use your air compressor to gently blow off any remaining soot and residue from the flaming process.



**Even out the color and focus on the texture.** Adding black stain is an optional part of Miano's process. He applies it prior to a clear finish. The stain mixes with the charred top layer of the wood and creates a slurry, evening out the variations of the black color left by the flames. Gently apply the stain with a synthetic brush.

Domino tenons to ensure that when I superheat the glue joint the boards won't split apart. I add a bronze butterfly key to the joint to make it stronger and provide a design detail, gluing it in with Gorilla 5-minute, two-part epoxy.

### Charring the surface

I always do the charring outside. Make sure you keep in mind the surface under the work you're charring. Even if it is concrete or metal, for example, the charring will leave marks on it. And obviously you don't want the surface you are charring on to be a flammable material. Be sure to keep a fire extinguisher handy just in case. As the son of a FDNY firefighter, I always take safety seriously.

My torch of choice is the SeeSii 500,000 BTU weed torch, connected to a propane tank. It was designed as a landscaping tool

to remove weeds and can be picked up online or at a hardware store. I dial mine in to produce a constant flame and begin the three-step shou sugi ban process. Because the first step is a light surface charring, cooling time between the first two passes can be just a few hours, but after the second and third charring I wait overnight before I char again or apply finish.

Holding the torch 6 in. to 8 in. away from the stool, I start at the legs, charring the surface black and working my way up to the stool's top. I'm searching for an alligator-scale look, but not on the first pass. The flame will heat up and begin to melt any glue, so try to work the areas around glue joints with caution. Keep the torch moving, particularly at glue joints. The Dominos in the top and butterfly will help with this process.

After the third charring, once the desired look has been reached, allow the stool to cool completely before moving on

## Apply the finish

**Apply Osmo, buff, repeat.** After the black stain is dry, use a Scotch-Brite pad to gently buff the surface. Apply a first coat of Osmo Polyx 3054. Allow it to dry for 24 hours, and then buff that out with the pad and repeat the process two more times. At this point you shouldn't see any new black residue on the pad.



## Butterfly detail

**Add a patina to the butterfly key.** The final step is to tend to the bronze butterfly key. Miano carefully sands the key and uses a rag to apply Sculpt Nouveau Slate Black patina to the key.



to applying finish. It's important to leave the stool in a safe spot and keep an eye on it in case of a spontaneous flare-up, as the wood can reignite. I haven't seen this happen, but it is a possibility you should not dismiss. I leave the stool outdoors as long as possible, set on metal or concrete and away from anything flammable. Once the stool has cooled overnight, I take my air compressor and lightly blow off any soot and residue.

### Applying stain and finish

My finish of choice for this stool is General Finishes water-based wood stain in black, followed by Osmo Polyx-Oil 3054. As I apply the stain, the char on the surface mixes in to create a slurry for an even black surface color. Generously apply the finish, working in small areas until the whole stool is uniform in color. I like this step because it evens out the black of the charring, but you can skip it if you prefer.

When the stain is dry to the touch, begin applying the Osmo Polyx. Using a synthetic brush, work the first coat into any voids of the scaling. This will solidify and strengthen those spots. After letting it dry for 24 hours, use a Scotch-Brite pad to knock down any parts that have a high sheen. I repeat the Osmo two more times, allowing 24 hours between coats, lightly knocking back the surface each time with the Scotch-Brite pad to produce some tooth for the next application to bond to.

My final step is to carefully sand the surface of my solid bronze butterfly and wipe on a black patina. Occasionally, if I like what the heat did to the bronze, I will skip the patina. □

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