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Fabulous Finish for an Exterior Door

Beautify a wood door with dye, stain, varnish, and a commitment to doing the process right

BY PETER GEDRYS

In the world of home building, we too often let time outweigh quality. That's a concern I have day in and day out as a professional finisher. I try to help people understand that making their mahogany paneling, cherry vanity, or walnut stair rail truly shine means putting in the time, and we all know that time means money.

An entry door is a good example. For many people, a one-and-done premixed pigment stain applied to bare wood followed by a couple of coats of varnish is just too cheap and easy to pass up. That's fine as long as expectations match efforts, but a bit more care and the simple added step of dyeing the wood will make a major difference.

Looking at stained wood is similar to looking through a window covered with a thin sheet of plastic; you can still see the grain, but it's muddy and somewhat blurred. By layering the stain over a coat of dye, you can add depth and interest to the color. But achieving this look means more work. For example, the six-lite Douglas-fir door from Simpson shown here required about 22 hours of labor, which included testing colors and making sample boards to try out color combinations.

Is my process the only way to finish a door? Absolutely not. It is, however, one that I have tested with success. Followed carefully, this sequence should ensure that your wood door looks beautiful for years before needing maintenance.

It starts with sanding

After sanding the entire door to 150 grit with a random-orbit sander, it's crucial to sand by hand every square inch with 180-grit and 220-grit paper to bring all surfaces of the wood to a consistent feel before adding any color. This is your chance to get to know the surface of the door, using a raking light and running your hand over the wood to find dents, chips, and spots of glue that could cause problems during the finish stage.

Be methodical with your sanding sequence. I usually do panels and muntins, then rails, then stiles. The specific order doesn't matter, but having a sequence does, because it ensures that you don't miss any spots. It can be hard to see blemishes on the surface of the door, but hands are incredibly sensitive to subtle differences in surface texture. Sand with one hand, and run your other hand lightly over the surface to determine which areas need more attention.

After sanding, remove all traces of dust from the surface of the wood. I don't use off-the-shelf "tack cloths"—typically cheese cloth treated with a tacky material—because to me they are an opportunity

STEP 1 SANDING PREPS THE SURFACE

Never assume that a factory-fresh wooden door is ready for finish. You have to go over every square inch with sandpaper, starting at 150 grit with a random-orbit sander, and then working through 180 grit and 220 grit by hand. Be on the lookout for dents, scratches, and splinters, all of which should be dealt with before you start the dye phase.

Address your sanding. *Avoid arcing sanding patterns by standing in line with the wood grain and moving your hand straight back and forth. Use a backing block and 180-grit paper, then 220-grit paper, to sand every inch of the surface. Sharp edges can't hold finish, so round them over.*

Wipe away dust. *A rag dampened in denatured alcohol picks up dust, and the alcohol highlights any imperfections that need extra attention.*

to introduce surface contaminants. Instead, I wipe the door with a clean, dry cotton cloth, then vacuum it and finish by wiping it again with denatured alcohol.

Unify the wood with a ground color

The wood stains that most people are used to buying and working with are known as pigment stains. The particles of pigment are suspended in a binder, much like the flakes in a snow globe, and must be mixed up so that they don't settle to the bottom. When applied to wood, the pigment lodges in the grain and pores of the wood surface. By contrast, the dyes I use are made by mixing powdered concentrates into a solvent (in this case water), sort of like stirring sugar into coffee. There is no pigment to settle if a mixture of dye is left on a shelf, and when applied to wood, the color penetrates more evenly than a pigment stain, unifying the color of dark and light areas of the wood.

The typical dye solution is made by mixing 1 oz. of concentrated dye powder to 1 qt. of hot distilled water. I prefer to make a stronger solution of 2 oz. dye to 1 qt. of hot distilled water, which becomes my master batch of dye. Now I can take a measured amount from the stock solution and mix in a measured amount of water to create the exact color strength I'm looking for.

For this project, I used a combination of dyes. I mixed each colored solution separately, then combined the solutions incrementally to create a customized color, which I read by wiping test streaks on a white paper plate. After dialing in the desired dye color, I mixed up a quart of this solution, knowing this was more than I would need, and made note of the color combination so that I could reproduce it later.

One of the biggest mistakes people make when applying dye is to put it on too lightly. It's important to apply a copious amount with a saturated pad, making sure to wet the surface of the wood thoroughly. Because the applied solution dries quickly, you may see streaks between overlapping passes during application. Don't panic—these streaks are easy to blend together by passing over the affected area again to reincorporate the color. Watch out for dye accumulating in corners; use compressed air to blow out puddles before they dry.

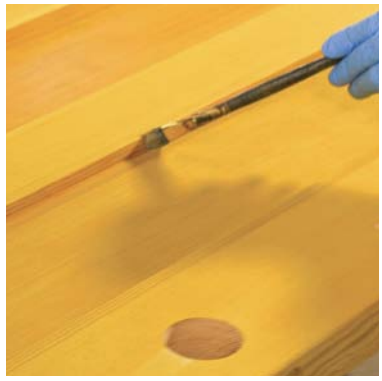
STEP 2 DYE CREATES THE GROUND COLOR

Working with dyes is about as easy as it gets. Add the powder concentrate to hot water, stir it well, strain the mixed solution, and apply with a pad. If you've never used dye, remember that it's part of a layered color scheme. It will dry to a dull, flat color that's very different from how it looks during application. Don't worry; just trust the process.

Don't just dump it in. *To control the mixing rate of the dye to the hot water, hold the measuring cup in one hand, and then tap the top of that hand to shake the dye into the water.*

Apply dye liberally. *Use a brush for details and a pad for flat areas, wetting the surface of the wood liberally, then wiping up the excess.*

Lock in the dye. *To seal the dried dye, apply a thin coat of dewaxed shellac to all surfaces of the door, again using a brush for the details and a pad for the flats.*



Shellac for an entry door? You bet

Although vibrant when first applied, dye stain fades faster than a politician's campaign promise. To lock in the dye and to allow me to add another layer of color on top—a process known as glazing—I apply a coat of dewaxed shellac, often labeled as a sanding sealer.

Shellac is not an exterior-grade finish, so you can't use it as a final coating for an exterior door. I've used it innumerable times for the very thin seal coat atop the dye, however. If shellac makes you nervous, you can use an oil-based sealer such as Interlux for this step, but plan on letting it dry overnight. By contrast, shellac dries much faster.

I apply the shellac with a pad made from unembossed paper towels—the blue Scott-brand shop towels are a widely available option. I dampen the pad with denatured alcohol before charging it full of shellac so that a reservoir of finish is soaked in. For detail work, I use an artist brush with bristles made for water-based paints.

STEP 3 GLAZING CREATES DEPTH AND INTEREST

Essentially a pigment stain applied over a coat of sealer, a glaze gives you control over your color. This translucent layer not only enhances the color of the underlying dye to add depth to the finished color, but it allows you to finesse problem areas. Contrasting wood tones can be blended, dark areas can be made light, and light areas can be made dark. If you don't like what you see, you can wipe it off with mineral spirits. When I'm happy, I let the glaze set up and then lock it in with oil-based sealer.

Mix up a glaze. *After combining the gel stains to create your color, add mineral spirits and a bit of glaze base to create a creamy mixture that applies smoothly and dries a bit slower.*

Work in sections. *Start with the panels, then move to the rails and stiles, and then the muntins, stopping at changes in grain direction between pieces. Blend the surface with a dry soft-bristled brush, unloading excess glaze from the brush onto a paper towel.*

Scuff sand. *After the glaze coat has set up, apply sealer, let it set, and then lightly scuff the surface with 320-grit sandpaper to prepare it for varnish.*

Once the shellac is dry, I hand sand it with 320-grit paper so that the glaze—the next step in the process—has something to cling to when applied. I use a light touch here; the coat of shellac is very thin, and I don't want to sand through and into the dyed wood below.

Give the glaze some slip

A gel stain alone can be used as a colorant over the sealed dye, but I prefer to combine it with an alkyd glaze base—essentially a thick base that can be combined with an oil stain in order to extend the working time of the stain. I start with one part glaze base, one part mineral spirits, and two parts gel stain, then adjust from there. I like the mixture to be about the consistency of heavy cream, which gives me good control when blending and softening the glaze.

A glaze coat doesn't need to be thick, and a few ounces goes a long way. I prefer a pad for applying this coat, but a brush or cloth is fine, too. Again, I work sequentially, starting with the panels, then moving to the rails and stiles and finally to the muntins.

The glaze can be feathered with a dry softener brush to create a soft, even color; removed in the center of a panel and pulled into the corners; or pounced with a brush to create light and dark areas. You

can have fun with it. If you don't like what you see, just wipe the surface before it dries, and start again. If the surface has started to become tacky, wet a paper towel or a rag with mineral spirits to remove the glaze from the sealed surface. When you're happy with the look, let the glaze dry overnight.

Once the glaze is dry, lock it in with a coat of oil-based sealer. I don't recommend shellac here because you're closer to the exterior face of the finish. Let the sealer cure, sand the surface lightly with 220-grit or 320-grit paper, hit it with the vacuum, then wipe it down with a cloth dampened with a mixture of water and denatured alcohol. Before adding final clear coats, though, fill the nail holes.

Wax color sticks are fine for filling nail holes in most applications, but I don't like them for an exterior door because of the potential for sunlight to soften the wax. Instead, I use WoodEpox, a two-part epoxy filler that I mix with a bit of dry earth pigment. Choose a pigment that matches the dye color already applied to the door, which allows you to then apply glaze over the filler to create a nice match with the rest of the door. I apply the filler with a gooseneck knife, and since it is slow-setting, it can be wiped smooth easily with a moistened gloved finger. As I like to tell students, if your eye doesn't pick it up, it's not there.

At least five coats of varnish

You have a lot of choices for the topcoat of an exterior door. Here, I used McCloskey Man O' War marine spar varnish, a commonly available product that provides solid quality at an average price.

Even if you don't want the look of a glossy topcoat, it's worth applying a gloss sheen. It has better clarity and can either be buffed to a satin sheen with Scotch-Brite pads or be finished with two coats of satin (the far easier option) to achieve a lower luster.

VOC regulations are changing the finishing game, and the lower VOC formulas (McCloskey 6505 series) are nowhere near as user-friendly as the standard (7505 series) formulas. My advice is to skip the low-VOC formulas because they are maddening to work with. No matter how carefully I apply them, and even when I use the best brushes in my arsenal, they still dry to a streaky appearance.

Even when using the 7505 series, I have noticed that while I used to have to thin the varnish prior to applying the first coat, the formula is now so thin that any further reduction would be counterproductive. That said, if the varnish you use is thicker, you can certainly thin it before application (a brushing thinner is a better choice than mineral spirits), and there are simple tricks for achieving the correct viscosity.

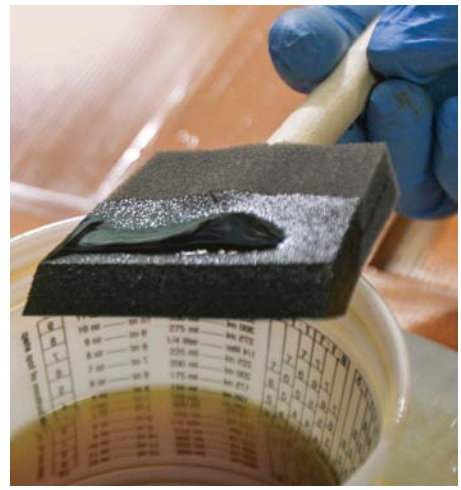
STEP 4 VARNISH ADDS PROTECTION

I consider five coats of varnish to be the minimum for a newly finished door. Factor in drying time of 24 hours for each coat, followed by sanding to prep for the next coat, and it's easy to see why some people cut corners on this step by only applying one or two thick coats. Do it right, though, and the extra coats ensure that the door can go for several years before needing to be recoated.

Epoxy for the holes. *A two-part epoxy filler mixed with dry pigment creates a tinted filler that's easy to pack into nail holes or blemishes.*

Sealer makes life easy. *Because the glaze is sealed, excess filler can be wiped away easily, and glaze can be dabbed on to match the rest of the finish.*

Gauge the viscosity. *Let the stirred varnish run off the end of a mixing stick while counting (one-one thousand, two-one thousand, etc.). If the stream changes to drips at around the four count, you're good to go. If it takes much longer, thin the finish and test again.*



Charge the foam. *After wetting the foam brush with mineral spirits, dunk it several times into the varnish, letting the finish soak into the foam between each dunk. This loads the foam with finish for a better application.*

For applying varnish, I use an artist's brush for the detail work and switch to a disposable foam brush for the panels, rails, and stiles. For some, the idea of using a cheap foam brush flies in the face of the well-established belief that if you want a good brush, you have to spend good money. That's not always true. If it's a good foam brush (one where the tang extends close to the tip of the foam for full support), you can lay an even, bubble-free coat of finish that rivals any produced by an expensive brush, and you can save yourself the cleaning and waste solvent involved in the latter. If you use satin or semigloss varnish, stir it every few minutes while working so that the flatteners

No brushmarks and no bubbles. *A quality foam brush—one with plastic supporting the foam—lays down a smooth coat of finish that's free of bubbles and brushmarks. Apply the coats in the direction of the grain while holding the brush at a 45° angle to the surface of the wood (above). Come back over the finish with the brush held almost perpendicular to the surface to tip out the finish (below).*

RECIPES FOR SUCCESS

Here are the products and mixture ratios used on the door shown here.

WATER-BASED DYE

- ✖ 1 qt. hot distilled water
- ✖ Concentrated powder dyes, $7 to $10 per oz. wdlockwood.com
  - 1 part medium yellow maple (#142)
  - ½ part golden yellow (MCW #194)
- ✖ Dewaxed shellac (sanding sealer), $15 per qt.

GEL STAIN

- ✖ Alkyd glaze base 409 $18 per qt. benjaminmoore.com
- ✖ General Finishes gel stains $16 per qt. generalfinishes.com
  - 1½ parts thinned glaze base
  - 3 parts Prairie Wheat
  - ¾ part Georgian Cherry
- ✖ Softener brush or similar soft-bristled brush

VARNISH

- ✖ WoodEpox, $21.50 abatron.com
- ✖ Dry pigment (raw sienna) $11.50 dickblick.com
- ✖ McCloskey Man O' War gloss spar varnish, 7505 series, $25 per qt. valsparglobal.com
- ✖ Plastic-reinforced foam brush, $1

in the finish stay suspended and the resulting sheen is consistent. The directions on the back of a can of McCloskey varnish recommend a minimum of two coats. In my opinion, an exterior door should get at least five coats to start its life.

The finish dries to the touch within six hours, but it's crucial to allow 24 hours of dry time before sanding and recoating. The first coat of this varnish was thin, so I used 320-grit sandpaper to refine it. Anything rougher probably would have cut through and into my color coats. For subsequent coats, I used 220-grit paper for most of the work, only switching to 320-grit paper for the muntins. Besides sanding, I like to refine the surface with a maroon Scotch-Brite pad between coats, being careful not to rub through the varnish at edges and corners.

Don't wait until the varnish is cracked and the wood is discolored to think about recoating. Keep an eye on the finish (gloss coatings that become dull are one indicator), and stay on top of the maintenance. Then when it does come time to renew the surface, it's as simple as washing, drying, scuff sanding, and recoating with more varnish. □

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