

A NATURAL

A GOOD HARDWOOD FRAME SHOULD BE FINISHED IN A WAY THAT ENHANCES THE WOOD'S NATURAL BEAUTY

The beauty of nature may be the greatest and most essential inspiration of pictorial artists. Natural wood is, therefore, an obvious choice in framing much of the work that comes in to your shop. The key to using hardwoods successfully is know-

ing how to finish them. Finishing in-house gives you control over the color—and everyone has seen how much better a frame is that's exactly the right color compared to one that's almost the right color. It also gives you the capacity to produce closed-corner frames, an added value easily understood and appreciated by customers.

Artists put great effort into the quality of the finish in their work, respecting the natural characteristics of their media. The finish of a frame ought to be approached the same way. The key is a finish that is integral to the wood, not

superficial. It should enhance, not cover up, the wood's inherent natural beauty.

PREPARATION

Frame finishing starts with careful sanding and/or hand-planing to remove all machine marks, to clean up the joints, and to achieve an appropriate degree of smoothness. The character of a particular wood species and the degree of sheen you want are the chief considerations. The coarseness of oak and ash, for example, is part of their appeal and



"California Coastline," an oil on canvas by Paul Kratter, is surrounded by a quarter-sawn oak frame that was stained and finished to create a natural look that blends well with the painting.

FINISH

By Timothy Holton

makes too much sanding needless. On the other hand, tight-grained woods like cherry and maple can be finished to a high gloss, in which case they should be sanded to a very fine grit—even as high as 600.

STAINING

Stains in the earth tones not only darken the wood but generally mute it as well. (There are stains in bright colors, but these bear little relation to the native colors of hardwoods.) This is often, but not always, a benefit, since the native color of a wood with nothing but a clear finish can be too intense for a picture and make the frame too prominent.

Staining is intended to capture the character of wood that has naturally darkened due to exposure to a variety of factors. These not only include oxidation and ultraviolet light from the sun but also smoke, rain, and snow. Staining can also be used to disguise one wood species or variety as another. Ebonizing is an obvious example of this. Walnut can also be stained to mimic purpleheart, a crowd-pleasing tropical hardwood that is not only endangered but fairly rapidly loses its namesake coloring and assumes a look pretty close to walnut. So why not start with walnut and stain it purple? The old Cuban mahogany had a dark color that its common modern successor, Honduran mahogany, can be stained to achieve. In any case, what you should be after is more than coloring; it's a natural look that seems native to the wood. To do that, a stain should be as integral and even as possible.

The stains used in our shop are technically not stains but dyes—aniline water dyes, which we prefer because they penetrate the wood much more than do oil or alcohol stains. Not only are much darker shades—including truly saturated black—possible with water dyes, but oil stain also catches in the open pores and makes for a much less even finish.

Water dyes require the added finishing step of raising the grain. If you don't do this with clear water before applying the stain, then the stain will raise the grain and you'll



Spraying the raw frame wood with water raises the grain and leads to a smoother surface after a final sanding.



The water-based dye stain is applied with a rag, allowed to soak in, and then rubbed off. The stain should be thin enough so that three or four applications are needed to attain the right tone.



The stained frame is then rubbed down with a scrub pad to help prepare it for the sealing coat.

end up with a rough finish. To raise the grain, wet the wood after it's been sanded and let it dry. This makes the fibers stand up, creating a slightly fuzzy surface. The fibers are then knocked down by sanding with a fine grit, say 320. We call this "post-sanding." This should be done at a slight angle to the grain so the fibers are sheared off rather than pushed back down into the pores. Occasionally it's necessary to post-sand more than once. If wetting the first time raises the grain a lot, this step should be repeated. There are alcohol-based dyes called non-grain-raising (NGR) stains, but they still raise the grain sometimes as much as water-based dyes. And because alcohol dries very fast, NGRs don't penetrate as well and applications can more easily create lapping streaks.

We mix our dyes from powders and prefer the JE Moser line sold by Woodworkers Supply. Using a color chart, purchase a variety of colors to experiment in mixing. Mix your stains in large jars and according to directions. Be sure they're not too strong. To get an even application a solution should be so dilute as to require three or four coats to achieve the desired shade. If you mix colors, make careful notes so your mixes can be repeated in the future.

As you experiment and test on scraps, keep in mind the effect of a clear coat over the stain. The color of the stain when it's wet is a pretty reliable indicator of the final color. Also varnish your test pieces, since varnish will impart an amber cast. Once you've settled on the stain you want, make a sample to keep for future reference (we keep a set of master samples).

Rather than using normal cloth rags or paper towels, use lint-free disposable rags. Start with a frame's reverse. Do the rabbet as well. It not only looks better, but if a frame ever goes on a mirror an unstained rabbet will also show in the reflection.

Allow 15 to 30 minutes drying time between stain applications. Second and third passes will tend to even out the stain, but it does require care and thoroughness to make sure that the whole frame is evenly covered. Some stains can look alarmingly wrong at this stage but will change when you apply the topcoat. Before proceeding, though, allow the stain to cure overnight.

SEALING AND TOPCOATING

Water stains do no more than color the wood. To protect it, a frame needs sealing and a topcoat. Because the wood has been stained, the finish is generally clear. There are

many clear finishes on the market. The easiest to apply are oils, like Danish oil, the most common brand being Watco. In a quest to find something "greener," we've settled on a German product called Livos. The literature on it says it's problematic when applied to oak and other woods high in



The clear coat sealer is then applied with a lint-free rag.



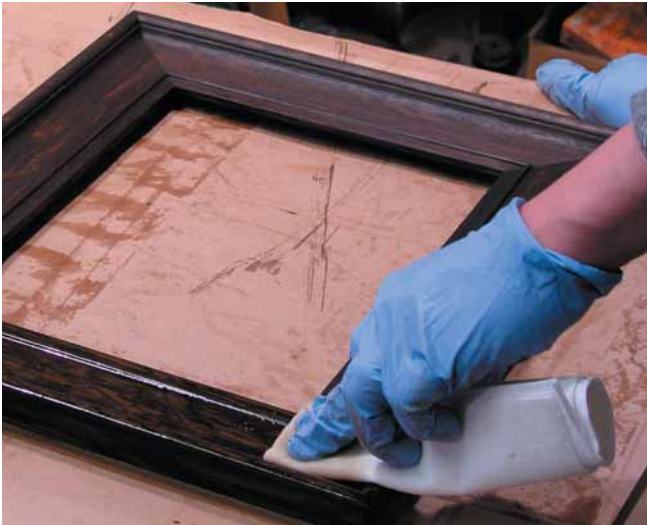
Give the sealer time to be absorbed, and keep applying it until it stops soaking in. Then wipe off the excess with a lint-free rag.

tannin. While we haven't found it to be a problem on oak, we've chosen to play it safe when finishing that wood by sticking with our old-fashioned rub-on varnish.

There are many of these on the market. They are long on oil, so they can be rubbed on by hand. I recommend trying out several. Some are offered in gloss and semi-gloss. The gloss looks more natural to me (we don't use enough so that it builds to a high sheen). Test them for water resistance, though, because water dyes, being water soluble, require good water protection. We've settled on the General

Finishes products, Seal-A-Cell, for the first coat and Arm-R-Seal for topcoats.

Shellac and lacquer may be preferred as well, depending on your set-up, including ventilation and isolation



The top coat is applied and then rubbed down with an oil-dampened lint-free rag.



After the varnish top coat has thoroughly dried, it should be rubbed out with a blend of waxes and abrasives.

from dust. A spray booth is optimum for these two finishes, but for most shops a spray booth is not an option, and rub-on varnishes or oils are the best solution. Not only are they penetrating, but because they go on thin they're also more forgiving and less vulnerable to dust. Nevertheless, good ventilation is critical. Always wear a respirator with filters rated for organic vapors. Gloves are the other critical safety item.

The sealer coat is the most important--and the most time consuming. The application procedure applies to

both oils and rub-on varnishes (the difference comes down to proportion of resins to oils). Starting with the frame reverse, apply the oil liberally using the same type of disposable rag as before, rubbing in a circular motion with enough vigor to work it into the pores. Let it soak in. The time for this will depend on temperature and humidity. Generally, the first go-over sits for 10 to 15 minutes before repeating. Especially watch for areas where the finish has completely soaked in, and keep applying until it stops soaking in.

After giving it time to absorb, wipe down the surface with a rag dampened with oil. If the rag sticks, the varnish or oil has "set up" or dried to the point where you can't wipe it off without bits of rag catching in the finish. Stop immediately, give your rag a fresh charge of finish, and wipe down the frame again. This will loosen the finish. At this point rub down the frame as aggressively as you like; it's impossible to wipe off all the oil.

As you get the hang of it, you can experiment with being less aggressive and leaving more finish on for a faster build. The more you leave on, though, the harder it is to get even results. Porous woods sometimes bleed oil from the pores within half an hour or so of application, so it's very important to check this. If you find that little beads have formed on the surface, wipe them out with a freshly charged rag. Letting them dry too long will make them virtually impossible to remove.

At every stage, check your work thoroughly. Once dried, each coat of finish is hard to repair. Don't make the mistake of believing that flaws will be covered up by subsequent coats. They'll actually get worse, not better.

Let this sealer coat dry at least overnight. The next coat won't build and protect properly if the first coat is not good and dry. Before putting on a second coat, lightly go over the face, back, and lip with steel wool or an abrasive pad to even out the first coat. With the second coat, the frame's already sealed, so you don't need to worry about soaking in. Apply a third coat if desired. Two coats are usually adequate except for mirrors and commercial and high-humidity settings. We tend to use a lighter finish on frames used for oil paintings, assuming there will be no glazing. The frame on a glazed picture ought to be better protected against sprayed glass cleaners. Oil finishes will dry out, so, especially if they're not waxed, three coats are recommended.

WAXING AND RUBBING OUT THE FINISH

After the last coat, whether you've used oil or varnish, the

finish may look a little uneven and/or could use a little more luster. If you've oiled the frame, try finishing with a paste wax. These are hard waxes sold in cans (Liberon and Trewax are two popular brands) and available both clear and tinted in a variety of browns. The point of the coloring isn't so much to impart color to the finish as it is to prevent the wax from turning white when it dries in the pores of the wood, as it will on a dark wood. Simply follow the directions on the can. The wax can be built up with multiple coats, if desired.

Varnish greatly benefits from being "rubbed out" with a blend of abrasives and soft waxes. We use a product made by Behlen's called Deluxing Compound (don't confuse this with a similar product called Rubbing Compound, which can turn white in the pores). Again, follow the directions on the can. Go lightly with this, and don't let it sit on the frame too long, since it does soften the surface.

There's great satisfaction in wiping off the last of the wax. You should have a frame perfectly keyed in color to the picture and that reveals all the inherent beauty and character of the wood. When it's done right, a good finish protects and enhances a frame just as a frame protects and enhances the picture inside it. ■



The final tone of a frame can be varied dramatically but effectively. All these quarter-sawn white oak frames have been given different looks through staining and finishing.



Timothy Holton, owner of Holton Studio Frame-Makers in Emeryville, CA, has been a framer for more than 30 years. His shop designs and makes all the frames it sells. He can be contacted at info@holtonframes.com.

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