

## Arts & Crafts Finish Without the Fumes

At Mountain Springs Woodcraft, aniline dye and lacquer replace turn-of-the-century fuming and shellac for the mission look.

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Water-soluble aniline dyes give the white oak in these mission-style pieces a deep, rich color and clarity to highlight the grain. Judy Schmitt designed this taboret table that shows off the rays and flecks of its quartersawn oak.

### Arts & Crafts Finish

Gustav Stickley's original Arts and Crafts, or mission, furniture of quartersawn white oak was fumed to a dark brown. That's a process which involves ammonia fumes reacting with the wood's high tannic acid content in a sealed chamber. "This process is the only one known that acts upon the glassy pith rays as well as the softer parts of the wood, coloring all together in an even tone so that the figure is marked only by its difference in texture," Stickley wrote.

The fuming process, however, proves extremely dangerous—ammonia is harmful if its fumes are inhaled or it comes in contact with the skin. And the shellac used as a final finish on Stickley's mission furniture, while it added warmth to the wood's tone, won't hold up like today's finishes.

To capture the dark look of Gustav Stickley's furniture without the danger, Michael Schmitt and his family turn to water-soluble aniline dyes. And the mission pieces they create on their Arkansas mountaintop would turn Stickley's head—each with a deep, warm clarity of color that highlights the rays and flecks of the wood. Careful applications of toned lacquer contribute protection and smoothness. But the Schmitts' success also comes from dedication in preparation and an in-depth knowledge of materials.

## How to dye to perfection

Because the wood has been thoroughly smoothed before glue-up, the aniline dye solution (five parts hot water to one part dye, with the dye first predissolved in a bit of denatured alcohol) raises the grain little after it's applied. And the staining with the first base coat, such as the "light fumed" aniline noted on the next page, goes quickly.

Armed with sponges and often hand sprayers, Michael's wife Judy, twins Alana and Jennifer, and son Chris carefully apply dye to every inch of wood, as shown *below*. Then, they allow the dyed assembly to soak several minutes before drying it off with cloths and using compressed air to blow excess from seams and corners.



The Schmitt family teams up to apply the first toning coat of a water-soluble dye solution to an oak baby crib built in the Arts and Crafts style.

After the dyed pieces have dried for 12 to 24 hours, the crew lightly hand-sands them with gray nylon abrasive pads or quarter sheets of 320-grit. "The dye is very forgiving at this stage," notes Michael, "and they can work over any mistakes or missed glue spots and reapply the stain. It blends right back into itself."

Next come two coats of the final aniline, a slightly different color to give the piece depth and enhance the grain. "The only limit to how much aniline we can put on from here is the saturation point of the wood fibers," adds Judy. "Once they have absorbed all the dye they can take, it begins to build on the surface and looks muddy. When we add more dye coats, we always let the wood dry thoroughly. Wet wood won't absorb dye."

## Lacquer locks in the dye

"Before I start spraying lacquer," explains Michael, "we make sure the dye has completely dried. If it hasn't, moisture collects under the surface film and the finish deteriorates in just a few months. My helpers also lightly sand the dry, dyed wood with 400-grit to eliminate any final grain fuzzies."

To lock the dye in, Michael begins spraying with two quick sealer coats of lacquer cut 50 percent with thinner. When the sealer has dried, Judy and the children again sand with 320-grit silicon carbide paper. This sanding makes the sealer coat absolutely smooth.

"Before the final lacquer, I spray on a toned glaze [Behlen Natural Glaze tinted with black, umber, and raw sienna glazing stain]. After it has dried for a few hours, I follow with from three semigloss lacquer coats on the surfaces of least wear to eight coats on tabletops," says Michael. Between each, the wood is sanded with 400-grit paper.

"Finally, after the sprayed pieces have dried for a day or so, we rub them out with Wool Lube [a rubbing lubricant made by Behlen] and water," Michael adds. "The overall effect is a piece that looks mellow, old, and comfortable anywhere it's placed. Old Gustav would have been just as proud to put his name on it as we are."

## The Schmitts' favorite aniline dyes

Water-soluble anilines are easy to work with, and their lightfastness (resistance to fading) rates higher than other types. Although there are several brands, the Schmitts use only those of J.E. Moser, available from woodworking supply dealers, which makes more than a quart of stain with Michael's ratio. Listed below are the Moser aniline colors that give the perfect shades for their furniture, along with some of Michael's comments.

***Light fumed.*** "For an even tone under the final color"

***Medium fumed.*** "Used as above, but has a greenish cast to create richer browns."

***Dark fumed.*** "As a final color over either of the above."

***English brown.*** "Similar to, but richer in red and deeper in color, than Dark fumed."

***Flemish brown.*** "A final color that duplicates Stickley's deepest tone, which he called dark fumed. It grabs onto the quartersawn oak's rays for breathtaking effects."

***Flemish black.*** "A final-coat black with brown overtones. Not for the timid, so try it on scrap first."

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