



*Common sense tips and suggestions
for quality woodworkers,
cabinet makers,
furniture manufacturers, and
anyone who uses hardwood plywood!*



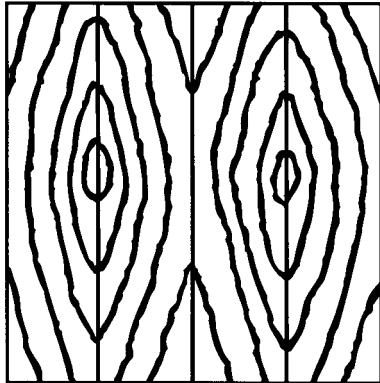
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Helpful Hints to Ensure a Beautiful Finish on Wood Veneered Products

The fundamental construction of flush wood doors and hardwood plywood is very similar. Both consist of the use of various substrates with a final finish surface of hardwood veneer. This finish surface is the subject of this article. Thus, principles discussed in this article generally apply to both.

Blotches are dark and/or light areas that appear when stain is applied to a panel, and occur because certain areas of the veneer may be more or less porous and absorb stain at different rates.



In book matched veneers, every other piece of veneer is turned over (as in the pages of a book). The visual effect of book matched veneer is one of symmetry at the splices (see drawing). As the veneers are turned, a “tight” and “loose” face is alternated in adjacent pieces of veneer. The different faces may accept stain and reflect light differently, causing a noticeable color variation across the panel. This blotchy appearance that sometimes occurs on book matched panels is referred to as the “barber pole” effect.

Blotches and barber pole may be eliminated or greatly reduced using the following procedures.

Sanding

Proper sanding is imperative to the final appearance of any finished surface. Sanding dramatically affects the staining process as well as the appearance of the top coat. A stain appears dark and blotchy if the substrate is not sanded enough. Thus, the surface must be prepared as perfectly as possible. The Architectural Woodwork Institute (AWI) Quality Standards, Sec. 1300 says, “Just prior to staining, sealing, and finishing, doors must be completely block sanded in a horizontal position by the finisher with not less than 150 grit sandpaper to remove all handling marks and raised grain.”

An important part of this statement is, “Just prior to staining.” Recently, some specifications have indicated that the factory shall finish sand prior to shipment. However, the wood veneered product may be stored for a period of time, which negates the benefit of the finish sand. Handling marks will also occur from the time of shipment to the finish stage and must be removed. If it is not practical for the finisher to finish sand prior to staining, it is recommended a factory finish be specified. If a dark stain is to be applied, it is even more important to thoroughly finish sand.

Sanding should be done with the product in a horizontal position. A hand block and/or pad sander should be used to cover 100% of the surface with even pressure. A wadded piece of sandpaper, used with the bare hand, sanding only the visible “spots,” is not the way to do it. You would be amazed how little time it takes to properly sand a wood door or panel when the finisher has arranged for two people, two saw horses, and two sanding blocks. The results are fantastic.

Washcoats

A washcoat is defined by the AWI as, "a thin solution applied as a barrier coat to wood. They are used prior to wiping stains for color uniformity." Formulas vary, however 8 to 10 parts thinner to one part clear sanding sealer has worked for many. Finishers who don't want to incorporate this process will argue, "it won't take a stain if you seal it." A washcoat will slightly inhibit the stain, so it is important to finish sand back to the wood after sealing. By sanding back to the wood, the finisher has opened the grain up so it will take a stain. The grain, however, has been uniformly sealed so the stain will be absorbed evenly. Samples should be prepared to ensure the desired finish will be achieved. *The use of a washcoat makes a finish sanding a mandatory step in the finish process.*

Iron Stain

Iron stain, which may appear as a dark bluish to black color, may occur in oak veneers when natural tannic acid in the wood comes in contact with iron and/or moisture. Enough moisture may occur during heavy rains or high humidity in buildings not yet temperature controlled. The following is from the Weyerhaeuser Company's "Care and Handling" brochure.

"To prevent iron stain, never use steel wool on the bare wood. Fine particles of the wool will cling to the door/panel and cause trouble later. If you use a shellac (a solvent for iron), it should not be stored in iron containers. To remove the stain prior to finishing doors, we recommend a solution of Ply Brite, a product of the Mogul Corp., Erusto Sales Special (available from many laundry suppliers), or oxalic acid crystals. The solution is made by dissolving 12 ounces of crystals in one gallon of lukewarm water.

Use a plastic or rubber container. Wear rubber gloves and goggles while working with the solution. Apply it to the stained areas with a brush or sponge; allow door (panel) to dry and sand with 150 to 180 grit sandpaper. The entire door surface should be treated to avoid spotting. Rinse treated surfaces thoroughly with water.

Important: *Failure to rinse the treated area adequately may have a damaging effect on the finish subsequently applied or may cause damage to nearby glass, porcelain, or other surfaces in confined areas. Damage may not result immediately, but may result during storage or after installation."*

The above comments are based on years of observing these problems occurring repeatedly. The remedies and recommendations are compiled from experience and information from the following:

Weyerhaeuser Company, "Care and Handling"; AWI, "Fine Finishing Factory Finished"; NWWDA, "Industry Standards I.S. 1-A"; and AWI, "Architectural Woodwork Quality Standards, Fifth Edition."

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