Blotch Prevention

Don't lose your project to a motley mess at finishing time. There's more than one way to achieve even color.

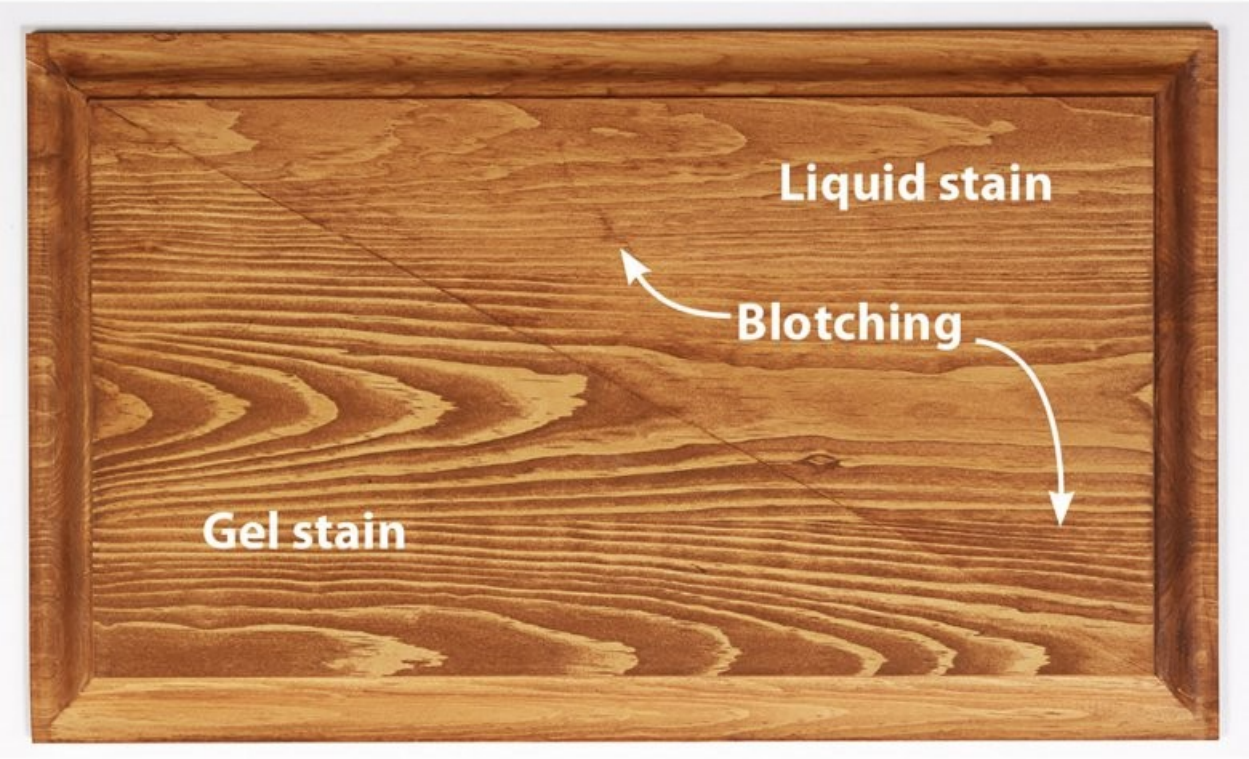
Botching happens when areas of varying wood density absorb liquid stain differently, resulting in an unevenly stained surface that detracts from the natural beauty of the grain. Some woods, such as oak and walnut, absorb liquid stain evenly. On pine, cherry, maple, poplar, and birch, however, spongy areas soak up more liquid—and more color—than dense areas.

Any blotch-prevention program starts with evenly sanding to 180 grit on face grain, and to 220 grit on end grain. If you use a random-orbit sander, follow up by hand-sanding with the grain using the same final grit.

After sanding, wipe all surfaces with DNA and inspect for scratches or sander swirls. Once those are gone, apply a gel stain or equalize the wood density with a washcoat. Choose the gel stain option if you want an easy solution straight from the can with predictable color. But go for the washcoat if you want absolute protection against blotching or plan to use a water-based stain.

More on gel stains

Just as on wood, liquid stain quickly penetrates deep into the sponge, while gel stain rests on the surface without being absorbed.



Gel stain produced less blotching in pine than the liquid version of the same color, but still produced high contrast between growth rings.

Before applying gel stain, thoroughly mix any liquid at the top of the can back into the gel. Wipe on stain generously but evenly. Allow the stain to sit for the time recommended by the manufacturer—usually about three minutes—and then wipe off the surplus, working with the grain.

Don't expect gel stains to get you out of sanding end grain to a finer grit. A rough surface there still traps more stain pigment particles than on other surfaces.

Clean up with a washcoat

Whether you use a store-bought wood conditioner or make your own from varnish and mineral spirits (more on that later), these so-called "washcoats" work the same: Solvent carries a small amount of varnish extra-deep into the absorbent, blotch-prone areas, partially sealing them. This equalizes the absorbency so liquid stain penetrates more evenly without blotching (photo - *below*).

A washcoat (a store-bought wood conditioner) reduced the growth ring contrast caused by a light walnut liquid stain on this pine panel.

You can use an oil-based washcoat beneath oil-based or water-based stain (photo - *bottom*) once it dries thoroughly. To create your own, mix two parts of the varnish you'll use as a top coat with eight parts mineral spirits. However, don't attempt to thin water-based finish to make your own washcoat. Stick with the store-bought types.

Gel-stain glaze darkens the right side of this cherry panel without increasing the contrast caused by blotches.

Now the downsides: Partially filling the pores with a washcoat leaves fewer places where stain pigments can catch. That produces a lighter color than on wood with no washcoat. Washcoats also require some experimentation to prevent blotching while still coloring the wood.

Apply the washcoat generously to a test board until the spongy areas and end grain become saturated. When these areas stop pulling in liquid, wipe the surface thoroughly to remove the excess. Allow an oil-based washcoat to dry overnight and water-based washcoat to dry for three hours.

Conditioner labels may say you can apply stain sooner than that, but resist the temptation. You'll risk dissolving the washcoat with the solvent in the stain. If blotches appear, gradually add varnish to the homemade mix or apply additional coats of conditioner until it blocks the blotch. Don't exceed one part varnish to two parts mineral spirits.

Lightly sand the wash-coated surface using the same grit you used on the unfinished wood. Then stain according to the manufacturer's instructions.

Too late to prevent? Hide those blotches

If despite your best efforts a stained surface still shows blotching, don't give up. Conceal light blotching with a glaze. That's any thick stain applied over a film finish covering the blotched stain.

Begin by applying a full-strength "sealer" coat of the same finish you'll use for your top coats. After the finish dries, lightly roughen it in the direction of the grain using 0000 steel wool to provide scratches where pigment particles in the glaze can catch. Then apply an even coat of oil-based gel stain as your glaze.

If you only need a small amount of glaze to fix the blotching problem, wipe off the excess stain as you would on bare wood, allow it to dry, and apply two topcoats (*photo below*).

Gel-stain glaze darkens the right side of this cherry panel without increasing the contrast caused by blotches.

If you need a darker glaze to cover up the blotchy areas, use just the tip of a dry, natural-bristle brush to distribute the stain (instead of wiping it off) until it's an even color. Wipe the brush off frequently as you work. If you remove too much, restain that area and start over. If you make a mistake, wipe the surface before the glaze dries using a cloth soaked in mineral spirits; then try again.