

A Pro's Secret to a



Oil-based fillers

BEHLEN PORE-O-PAC GRAIN FILLER

Colors: Natural, medium walnut, mahogany
\$27/Quart

I used a paddle mixer to stir this filler to an even viscosity, then thinned it in the ratio of 3 parts filler to 1 part mineral spirits. It set up the fastest of the oil-based fillers, forcing me to work on a smaller area at a time, but the initial results were reasonably good.

OLD MASTERS GRAIN FILLER

Color: Natural (deep gray)
\$14/Quart, \$42/Gallon

This product is easily mixed by hand. To add color, it is recommended to add "1 part stain to 2 parts filler" because it needs the binder in a stain to perform as required. It was easy to work because it didn't set up very quickly, but it had a gummy texture. The initial results were reasonably good.

SHER-WOOD NATURAL FILLER

Color: Natural (light gray)
\$82/Gallon

I mixed this heavy filler to the viscosity of medium cream, roughly 3 parts filler to 1 part thinner. It filled the grain very well and had little to no shrinkage. It didn't set as fast as the Behlen and filled better than the Old Masters, so it's a good choice for an oil-based filler.

Perfect Finish

BY PETER GEDRYS

You may have admired the mirror finish on a piano or wondered how expert finishers get that dead-smooth clear coat on fine furniture. The secret isn't just in sanding or spraying, but also in an intermediate step called grain, or pore, filling. Unfortunately, this step often gets eliminated because it can be messy, a bit time-consuming, and at times troublesome. But this single process can help transform a finish from mundane to spectacular.

I'll show you when to use a grain filler, why it shouldn't be used only on tabletops, and how to get the best results with the least mess. I'll also describe the pros and cons of six commercial brands of filler.

Oil-based vs. water-based fillers

Grain fillers come in oil-based and water-based varieties. Water-based fillers don't smell as strong as oil types, tool cleanup is



Water-based fillers

AQUA COAT GRAIN FILLER

Color: Clear

\$20/Pint, \$35/Quart

This is an easy-to-use filler with low odor, but because it's a gel, removing the surplus was a bit difficult. Also, it takes a little more time to incorporate a color into the gel. It sands easily. Both this and the Crystalac can be used as clear fillers.

CRYSTALAC GRAIN FILLER

Color: Clear

\$30/Quart

This filler had low odor and dried slowly enough to make it easy to apply, but fast enough to apply a second coat fairly quickly. It was easy to sand. If you want to color a filler I'd give this a slight edge over the Aqua Coat because it was easier to incorporate color into it.

BEHLEN GRAIN FILLER

Colors: Neutral, mahogany, brown

\$22/Quart

This product filled very well, but dried extremely quickly, making it difficult to work. The surface had to be sanded to remove the final residue. I'd be cautious using this on veneered work. It's the only water-based filler used that is available in wood tones.

Prepare the filler

Most of the fillers have to be colored to either match the wood or be slightly darker.

Mix the right color. For an oil-based filler, dilute some filler with mineral spirits, then add artist's oils until you reach the desired color. For mahogany, burnt umber is a good base color tweaked by adding black or red.



easier, and they dry faster. This last feature, though, can be a double-edged sword. I like the fact that oil-based fillers take a little longer to dry because I can work on a larger area at a time. For example, when filling a mahogany desktop, I may be able to do it in three sections with oil-based as opposed to six with a faster-drying, water-based type.

Some fillers come in wood tones while others are only available as “neutral” or “natural.” Unless you want gray pores, these clear fillers must be colored. For oil-based fillers, you can use any solvent-compatible colorants such as artist's

oil paints, dry pigments, or universal tinting colors (UTCs). For water-based fillers, you can use Mixol concentrates, UTCs, or artist's acrylics.

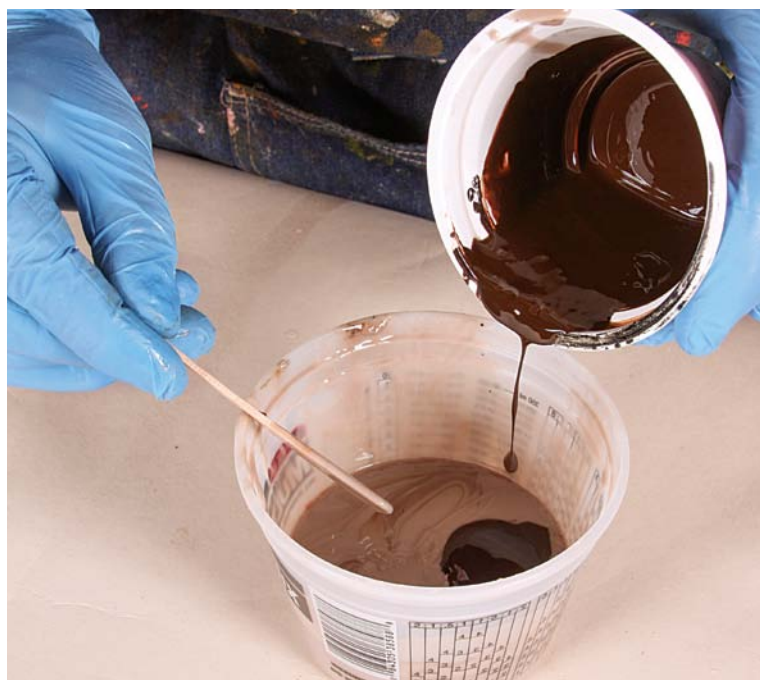
It is best to blend the color thoroughly with a small amount of filler and mineral spirits (or water for water-based fillers) and then add that to a batch of filler; it will incorporate much more easily than if you add the color directly to the batch. If you use dry pigments, mix them in well; otherwise, you may have a pocket of unmixed pigment smeared on the surface.

If a can of filler has been sitting on a shelf for a long time, you may find that the solids have become tightly packed at the bottom. Don't throw it away; it may be perfectly viable. Use a metal paddle mixer chucked into a drill, or ask the local paint store to

Hide or enhance the grain?

You can emphasize the grain structure by making the filler slightly darker, a technique found on a lot of antiques (left section of panel). You can use a clear water-based filler to leave the wood looking unchanged, apart from the smooth finish (center). Finally, you can have the grain filler match the dyed or natural color of the finished wood to minimize the grain structure (right).





Add the color to the filler. Stir the colored concentrate into a slightly larger quantity of filler than you think you'll need. With oil-based fillers the color concentrate adds 10% to 15% by volume, with water-based, 5% to 10%.



Check your progress. To tell if you've reached the right amount or saturation of color in the filler, wipe some on a white paper plate. You want it to be pretty opaque, as in the left-hand sample.

put it in a paint shaker. After you've added any necessary color, thin the filler to the consistency of medium cream.

Sand, stain, and seal the wood first

You need a grain filler only if you want a film finish on an open-pored wood, such as a period reproduction made from walnut or mahogany, or a contemporary piece made from any open-pored wood such as white oak or ash.

Prepare the surface as you normally would. Sand to 180 or 220 grit, and then apply dye or stain if desired. Next, instead of a full or heavy coat of clear finish, apply a thin washcoat. It seals the surface but does not distort or close off the top of the pores, which would interfere with filling them.

The washcoat should have a solids content of 7% to 15%. Two good options are a 1-lb. cut of dewaxed blond shellac, which has about 10% solids, or lightly thinned vinyl sealer, which has about 14% to 20%. I apply my washcoat with a French-polishing type of pad or even just an industrial paper towel folded flat. On a large top, the pad or towel should be wet but not soaking. Apply a thin, wet coat quickly and leave it alone. If you do need to sand, be very careful not to cut through the seal coat and especially your color coat. A safe way is to use the back of the sandpaper and do a light burnish.

Apply the filler, then remove the surplus

Apply the filler using a stiff-bristle brush. Brushes with short, thick bristles work best at forcing the filler into the grain. Be sure to clean the brush well afterward or it will harden like a rock.

After applying the filler, wait a few minutes and then remove any excess using a plastic putty knife or scraper. The filler should roll up the blade. If you're pushing liquid across the surface, give the filler a little longer to set up. Scrape away the bulk of



Consistent consistency. When you've achieved the right color, strain the filler through two layers of cheesecloth to remove lumps.



Apply and remove the filler

Both types of filler are applied in the same way, either with a brush or rubbed into the grain with your hand. Because the water-based fillers dry faster than the oil-based ones, you should work a smaller area at a time, and the final surplus may have to be sanded off.



A single coat. Wipe or brush on the thinned shellac. Resist the urge to touch up areas that absorb the finish. You are only sealing the wood, not finishing it.

the surplus, wait a few more minutes (less for water-based fillers), and then go over the surface with a white non-abrasive pad. Move the pad diagonally to the grain, first in one direction and then the opposite. Use a light touch so as not to remove any filler from the grain. Finally, go lightly with the grain to remove any remaining excess. The action is a lot like erasing chalk from a blackboard.

If you apply filler over too large an area and it is setting faster than you can remove it, wipe the surface with a cloth or paper towels wet with mineral spirits (or water for water-based fillers) and start over. This will only work if the filler hasn't fully hardened. If that happens, you will have to sand away the surplus and most likely dye and seal the surface again.

How to tell when you're done

Use a raking light to examine the surface. It should appear a little dull and have no visible removal marks. If you see crosshatching lines left by the putty knife or the pad, go over these lightly using the white pad with the grain. Don't worry if you still see a slight trace of the pores; the finish will bridge over this. If you need to fill the grain a second time, as I often do on woods with large, deep pores such as most mahoganies, wait 24 hours. Once the grain is filled and the surface is clean, let the filler rest for at least 48 hours and preferably three to four days to let all the solvents evaporate before applying a clear topcoat. If you don't, within six months there will be little bubbles in your finish. This is called "solvent pop" and the only way to fix it is to strip the finish and start over.

Apply the clear coat the same way as for unfilled wood with two precautions: Before using a water-based finish over an oil-based filler, or vice versa, first seal the filler with a 2-lb. cut of shellac. Before you use solvent lacquer, apply a coat of vinyl sealer over either type of filler. □

Peter Gedrys is a professional finisher and restorer in East Haddam, Conn.



Brush in the filler. Work the filler down into the grain using an old brush. Be careful not to cover too large an area or the filler may harden before you can remove the surplus.



Hand applied. Gedrys likes to work the filler into the wood with the heel of his gloved hand.



1

Not ready to remove. Don't try to squeegee away the surplus filler while it is still shiny and liquid. You'll just pull it out of the pores.

Work quickly. Move the squeegee at a 45° angle to the grain to scrape away the surplus but leave the grain filled. You have a narrow window from when the filler starts to set up to when it becomes too hard to work.

This beats burlap. To remove the residue missed by the squeegee, Gedrys uses a white, non-abrasive pad instead of the traditional burlap, which can scratch the wood.



2



3



4

A final wipedown. After an oil-based filler has cured for at least an hour, gently wipe the surface with a cloth dampened with mineral spirits to remove any haze of filler left on the surface.

TIPS

DEALING WITH DETAILS



Once the pad becomes loaded with filler you can use it to fill the grain on carved and curved areas.



You don't want to leave surplus filler anywhere, so use a sharpened dowel to clean out recesses and corners.