



GarrettWade

White Paper

Some furniture hardwoods like mahogany, walnut and oak require that you fill the wood's pores if you aim to achieve a mirror-finish when using a film finish such as varnish, shellac or lacquer. No matter how you prepare the surface of these woods, the pores below the surface act as open cavities into which a finish will settle. Called *pitting*, miniscule craters form in the finish as it cures, causing reflected light to be scattered and the finish to appear relatively dull. Filler can also be used to fill the pores of wood for visual effect. A filler one shade darker than the color of the wood or stain gives the appearance of depth to the finish. Pores can be highlighted with contrasting color to achieve dramatic effects.

Behlen's Pore-O-Pac is an oil-based Silex filler which can be thinned with Pore-O-Pac Reducer or mineral spirits. It comes pre-colored in mahogany and walnut, as well as neutral, which can be colored prior to use. To apply, follow the steps below:

1. Because filler does not take stain the same as wood, stain or dye the wood first.
2. Whether or not you stain the wood, apply a washcoat of thinned finish. Use a 1-pound cut shellac or varnish thinned two parts mineral spirits to one part varnish; because its solvent may soften the filler, avoid using lacquer. A washcoat:
 - Makes removing excess filler easier;
 - Makes it less likely to sand through the stain;
 - Allows working in sections without lap marks;
 - Provides color control. If you apply colored filler directly to wood, the filler will color the wood as well as the pores. If you apply colored filler over wood "sealed" with a washcoat, only the pores will be colored;
 - Provides a better bond with the finish.
3. Use colored filler or color neutral filler with oil- or japan- pigment. Filler can be colored with stain or dye but solvents in the stain will affect the drying time of the filler, so it is best to use dry pigments.
4. Thin the filler with Pore-O-Pac Reducer or mineral spirits. The filler can be used right out of the can as a paste, or it can be thinned to a watery consistency, according to the size of the pores, the size of the area to be filled, the humidity and your own personal preferences. The thinner the filler the longer you have to spread it. The more paste-like, the more you will have to press and work the filler into the pores. Start by thinning with 25% solvent and see how it goes.
5. Stir the filler, colorant and solvent thoroughly. Keep the filler well stirred during use.
6. Apply the filler to the wood with a clean cloth or brush, or spread the filler with a plastic spreader or squeegee. Apply an even thickness of filler. Do not work too large an area at a time; you must be able to remove the excess before it dries and hardens.
7. Allow the solvent to evaporate. This usually takes 10-15 minutes depending on the weather. Wait for the filler to lose its sheen. This is called *flashing off*. A moist residue will remain.
8. Remove the excess filler by rubbing across the grain with a coarse cloth, such as burlap. Rubbing across the grain minimizes the filler being pulled out of the pores. Continue rubbing until the surface is as clean as possible. If the filler becomes hard before you are able to remove all of the excess, dampen a cloth with solvent and wipe the filler.

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9. Working with the grain, wipe the surface with a clean soft cloth to remove any cross-marks from rubbing.
10. Allow the filler to cure overnight. During times of high humidity, this may take a little longer.
11. Large pored varieties such as mahogany and oak will require double-filling the pores to achieve a level surface. Reapply the filler as above with or without a washcoat in between. Allow the filler to cure thoroughly, up to three days depending on the weather.
12. Sand lightly with 320 or finer sandpaper to remove any remaining cross marks.
13. You are now ready to apply your finish. Multiple thin coats are better than thick coats. If the finish is lacquer, apply a washcoat of shellac first. Lacquer thinner softens cured filler, causing it to swell.

Note: Pitting can occur due to shrinkage of the filler, or if during rubbing you have pulled filler out of the pores. This is unavoidable. For a mirror-flat level finish, sand back the top coat and apply more. The finish itself will act as filler.

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