



French Polishing Demystified

A step-by-step guide to an unmatched finish

BY VIJAY VELJI

When I was growing up in Calcutta, India, my family's apartment had a clear view of a workshop that made high-end cabinets for radios. Standing there, I could watch the master craftsman make a carcass, veneer it, and finally finish it. For the latter, he used a curious circular motion with his hand that produced a most gleaming finish. Over time I talked to him about his technique, called French polishing, and after I had made a few pieces of furniture, I decided to try it myself.

In the years since, I've spent many hours reading articles about this mysterious finish, but practice was the key to getting the method correct. I will guide you through the process, from prepping the surface to filling the grain, from applying the shellac in very thin coats to giving the surface that final mirror shine. No other finish can match the clarity and depth of French polishing or the way it reveals a wood's beauty. There are no deep secrets to this finish, but there are some tips you need to know.

Careful sanding lays the foundation

Whether you are refinishing a piece, as with this card table, or finishing a new piece, the steps are the same. To start, the surface has to be dead flat with a uniform scratch pattern, because any irregularities will be magnified after the shellac is applied. Start sanding with P100-grit paper and work your way up to P320-grit. You can use a random-orbit sander until the last grit, which must be done by hand using a cork-faced block, sanding with the grain. There are no short cuts, so take your time.

You can French polish both flat and curved surfaces, but you can't get a polishing pad into inside corners. Because this piece is already assembled, I'll be brushing shellac on the inside corners of the base. However, it is perfectly possible on a new piece to polish the components first, and then carefully assemble them. The only exceptions are small areas such as molding or trim.

Use fresh flakes

The best shellac for French polishing is dewaxed orange, garnet, beige, super blond, or platina flakes. Always use dewaxed shellac when finishing new or restoring old furniture. It is the wax in the shellac that gives rise to poor water resistance. Decanting seedlac or machine-made shellac can never get rid of enough wax, so use dewaxed varieties that have a wax content of 0.2% to 0.5%. Even in flake form, shellac has a shelf life of only two to three years, so don't use flakes you picked up at a tag sale. Also don't use premixed shellac sold in cans for



Fill the grain



Build the finish



Bring out the shine



Don't forget the details

1. Fill the grain

Before being polished, open-pored wood must be filled with a mixture of shellac and pumice. Applying the mixture with a pad is good practice for later steps.

French polishing, as the additives that extend its shelf life make it hard to pad on very thin coats.

Open-grained wood must be filled

To achieve a mirror-like finish, the polished surface must remain perfectly smooth. Because shellac shrinks over time, if you try to use it to fill wood pores, eventually the pore structure will reappear on the surface. On close-grained species such as cherry or maple, grain filling may not be necessary, but on open-grained woods like walnut and mahogany it certainly is. Use superfine 4F pumice, a white volcanic rock. Sprinkle the pumice with a simple cotton bag made from a roughly 8-in. square of T-shirt material held together with a rubber band.

Make two pads—You will force the pumice into the pores with the first of two pads, so take a moment to create these tools. Take an 8-in.-square piece of linen and a ball of cotton batting that fits in your palm.



Pounce the pumice. Pour some superfine 4F pumice into a cotton bag and then knock the bag at even intervals on the workpiece.



Prepare the pad. The pad consists of a cotton batting core inside a linen covering. Dampen the core with very dilute shellac.



Fill the grain. Force the pumice into the wood's pores using a circular motion. Sprinkle on more pumice until the pores are filled.

Check your progress. To see if all the pores have been filled, check the surface against a raking light. You can also lightly run your fingernail across the grain. A smooth slide indicates that the pores are full.



2. Build the finish

This is the heart of French polishing: padding on multiple layers of shellac. The thin layers dry so fast that you can build up a deep, smooth finish in one session, without stopping.



Start at the core. The second pad has a cheesecloth core and a linen cover. Dampen the core with alcohol and shellac.



Knock it flat. After charging the pad, press it onto a scrap of wood to form a flat, wrinkle-free surface that will contact the workpiece.



Apply the shellac and raise the shine. Move the pad across the surface in a circular motion (left). You can employ a figure-eight pattern both along and across the grain, covering the entire surface of the wood. The shellac builds surprisingly quickly (below). Never stop the pad on the surface, as this will leave a mark.

Place the ball on the linen, grasp the four corners of the linen, bring them together, and twist them tightly over the ball to form a pad. The second pad, used later, is almost identical but has a cheesecloth core. All three materials can be found at fabric stores.

Open the first pad and dampen the core with alcohol and a 1-lb. cut of shellac in roughly a 10:1 ratio, working it into the batting. Close the pad and sprinkle some pumice on the wood. Now work the pad with firm pressure in a circular pattern mostly across the grain. The pumice soon takes on the color of the wood. Avoid working with the grain, because that will remove the pumice that has been packed into the pores.

The tiny amount of shellac is enough to create a kind of mastic that will glue the pumice in the pores. If you add too much shellac and the pad becomes sticky, simply add more alcohol. Grain filling is hard work, so take frequent breaks and try not to leave obvious swirls of the sawdust and pumice mixture on the



Three ways to deal with a sticky pad



Recharge the pad with just alcohol. When the pad becomes sticky, try dampening the core with alcohol alone.



Move the core. If shellac starts to build up on the outside of the pad, it is more likely to stick. Move to a clean part of the linen.



A little oil. Apply a drop of mineral oil to the pad. You will remove the oil from the workpiece later, so use as little as possible.



1

How to handle small surfaces

1. **Brush tight spots.** Use an artist's brush to apply shellac to inside corners that a pad can't reach.
2. **Blend the surface.** Immediately after brushing on shellac, use the pad to feather the wet edge into the rest of the surface.
3. **Don't forget the edges.** Only the top surface needs to be grain filled and fully French polished, but you can use the pad to apply shellac to the rest of the workpiece while bodying the top.



2



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surface. Recharge the pad with alcohol and shellac and sprinkle more pumice as required. Once you are satisfied, lightly run your fingernail across the grain. A smooth slide indicates that the pores are full. Add a 1-lb. cut of shellac on the outside of the pad and lightly coat the surface. Let it dry for at least four hours.

Slightly wet the surface with water and lightly sand in a circular pattern using 1,500-grit wet-or-dry sandpaper. Dry sanding would create heat, melt the shellac, and clog the sandpaper, causing uneven sanding. Run your palm on the surface to determine if it is smooth and flat. Remove the residue with a clean cloth.

Thin coats dry almost instantly

To get a mirror surface, the finish has to be perfectly smooth. Any waves or ridges will scatter the light rays. The easiest way to build a smooth finish is to apply very thin layers using a 1-lb. cut of shellac. With experience, you can move toward a 2-lb. cut.

The process of applying the shellac is known as bodying. Switch to the second pad. Dampen the cheesecloth core slightly with alcohol, then work in an equal mixture of alcohol and a 1-lb. cut of shellac. Twist the linen around the core and flatten the pad on a scrap of wood. Move the pad in a small circular pattern over the surface. Look for a faint glow of shellac seeping through the linen as it flows out of the core. As well as the circular pattern, you can employ a figure-eight pattern both along and across the grain, covering the entire surface of the wood. As the pad dries out, open it and add equal amounts of shellac and alcohol to the core. Never add shellac from the outside of the pad because the shellac must flow in a controlled manner from the core.

As the shellac builds up in the pad, it may get sticky. This can cause the linen fibers to separate and end up in the finish. There are three ways to deal with a sticky pad: Recharge the core with alcohol. If you see any accumulation of shellac on the linen cover, move the inner core to a new part of the linen. As a last resort, add a drop of mineral oil on the outside of the pad. Any oil added now has to be removed at the later stage of burnishing, so use it sparingly. Luckily, fresh flakes usually don't need much oil.

3. Now burnish everything

Pause for a pore check. After letting the surface dry overnight, check to see if the shellac has shrunk into the wood pores and more shellac needs to be applied (left). Then use a barely dampened pad to burnish the shellac to a mirror finish (below). At the same time, the pad removes any oil that was used when building the layers of finish.



Bodying is the most time-consuming part of French polishing. You can do it in one long stretch or spread it out over several days. I can't give you a rule on how much shellac to apply; a grain-filled, open-pored wood will usually require more than a close-pored wood. To determine if the bodying process is complete, look at the surface from an angle against the light. If you see any pores of wood grain, you have more work to do. The initial bodying process is complete once you've laid a flat and even layer of shellac over the entire surface.

Let it dry overnight. The next morning, because shellac shrinks as it dries, you may see some areas that require more work. Continue with the bodying process but if you have been using one of the darker grades of shellac, switch to super blond or platina. These grades have the best resistance to moisture.

Once the pores are filled with shellac and the surface looks perfectly smooth again, start using alcohol alone to get rid of all the shellac from the core as well as the linen. Again let the piece sit overnight to double check that shellac shrinkage doesn't reveal any more pores.

Burnish the surface for that mirror finish

Burnishing is where you evenly stretch the shellac and remove any oil used when bodying the finish. You can use the same pad, but if the linen cover looks thin and worn, replace the whole pad.

Burnishing is hard labor because pressure must be applied on

a pad that is almost dry to the touch. If you are using an old pad, wet just the core with alcohol. Use a little more alcohol to wet the core of a new pad. Move the pad with the grain and sometimes in small circular patterns, always applying pressure, and always moving. If you stop, the pad will stick and mar the surface. If this happens, try burnishing away the blemish; if this doesn't work you will have to apply more shellac. If the pad gets too dry, add alcohol very sparingly.

Working this way will give you the mirror finish you have heard about. By the way, you do not have to apply a layer of wax, because the shellac is hard and durable enough to stand on its own merits for a long time. □

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