High-Gloss Finish Made Simple

Automotive polish makes it fast and foolproof

BY SEAN CLARKE

Nothing matches a high-gloss, rubbed-out finish for enhancing the color, depth, and figure in wood. However, you won't get this flawless and glossy look from brushing or spraying alone: It is achieved by applying certain types of film finish and then polishing them either by hand or machine.

I recommend shellac or lacquer (not water-based) for this process. While I'll demonstrate by brushing on lacquer, I'll also give recipes for spraying lacquer and for brushing or spraying shellac (see p. 57).

Although certain styles of furniture such as Art Nouveau may have the whole surface polished (or "rubbed out"), with other styles it is quite acceptable to rub out just the most noticeable surface, such as a tabletop. Or, you can start the rubbing-out process but stop before a high gloss is reached, and instead achieve a flawless, semigloss sheen.

A perfect surface is critical

For this highly reflective finish, the surface of the wood must be absolutely flat and smooth. This means that all milling marks, whether the telltale ripples of a power planer or the ridges from a handplane, must be removed. Start sanding at P150 grit and work up to P220 grit. If you are working with a harder wood such as maple, you may need to start with P120 grit. If

1. Fill the grain on open-pored woods

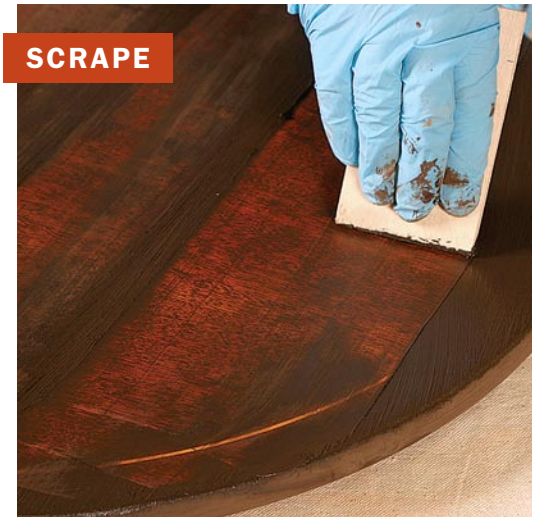
SEAL

Shellac prevents stains. *When using grain filler, first apply a washcoat of shellac to prevent the filler from staining the wood.*

FILL

Use a stiff brush. *Apply the filler using an old, paint-stiffened brush, going across the grain. Commercial fillers come in neutral, light, and dark tones, but you can tint them with dye powder to match the finished wood.*

SCRAPE



Remove the surplus. *After the filler has started to dry but before it becomes hard, use a plastic spreader or an old credit card at 45° to the grain to scrape away surplus filler on the surface.*

WIPE

Clean the surface. *Use a piece of burlap (or a white abrasive pad) to remove remaining surface filler that the scraper missed. Work at right angles to the grain so you don't pull the filler out of the pores. Let the filler cure overnight and then sand the surface lightly with P220-grit paper.*

you plan to use a water-based dye, wet the surface with water to raise the grain, let the wood dry for one to two hours, and sand lightly with P320-grit paper to remove the raised grain. Apply the stain, allow it to dry for at least four hours, and lightly sand with P220-grit paper.

Open-pored woods need to be filled— When applying a film finish to open-grained species such as oak, walnut, and mahogany, use grain filler. You'll need fewer coats of finish and less sanding between coats to achieve a flat surface, and you'll avoid the risk of the grain structure reappearing as the finish cures and shrinks down into the pores. Cherry and maple are sufficiently close-grained not to need filling. Before applying grain filler, apply a washcoat of dewaxed shellac to prevent staining.

You can use oil-based filler (I like Bartley's; www.bartleycollection.com), or water-based (I use Behlen's; www.woodcraft.com). Both come in light, dark, and neutral, but you can tweak them with water- or oil-soluble dye powders (www.woodworker.com) to customize the color. The oil-based filler gives you a longer working time, which first-time users may appreciate, but the water-based is ready more quickly for topcoating.

Apply the filler with an old natural-bristle brush, working across the grain. Wait about five minutes, then use a plastic scraper or credit card to gently remove the excess from the surface. Wait about 15 minutes and then use a piece of burlap or a white abrasive pad to remove the remaining excess. The next day, lightly sand to leave the pores uniformly filled but with no filler on the surface.

Build a finish thick enough to sand flat

Whether working with lacquer or shellac, I recommend two to three fully cured coats depending on how thickly you apply it. This gives you enough material to sand flat and then polish out. After applying a sealer, don't go beyond four coats, or you risk achieving a thick, plastic look. I'll focus on brushing lacquer; see the facing page for spraying lacquer and using shellac.

Photos: Mark Schofield

2. Build up a topcoat

SEAL

Two sealcoats. *Working with the grain (top), apply a coat of lacquer sanding sealer using either a conventional flat brush or a mop brush, which can hold more finish. Wait an hour, then apply a second coat, but this time go across the grain (bottom). Let the sealer dry for at least four hours.*

SAND

Block keeps surface even. *After the sealer dries, sand it with P220-grit paper wrapped around a cork block. Sand across the grain, then with the grain.*

Layer on the topcoats. *Thin the lacquer and then brush on two coats across the grain. After an hour, brush on two coats with the grain. Let the finish dry for four hours, wet-sand the surface with 600-grit paper, and apply four more coats.*

BUILD

I use M.L. Campbell's Magnasand sealer and Magnamax clear gloss lacquer. Sold by the gallon, they are designed to be brushed or sprayed. Alternatively, Deft, Watco, and Behlen sell quarts of sealers and lacquers. Begin by applying two coats of lacquer sanding sealer, brushing with the grain. Wait one hour, then brush on two more coats across the grain. No sanding is necessary between coats as long as you recoat within four hours.

Reduce the lacquer by 25% to 50% with lacquer thinner until it flows out evenly on a test board, and brush on two coats across the grain. Within two hours, brush on two more coats, this time with the grain. These four coats count as one fully cured coat. Allow four hours of drying time, then sand with P220-grit paper and dust off the residue. Repeat the four coats as described above. Depending on how thickly the lacquer was applied and how lightly you sanded, the build might be adequate at this point. To be safe, once this application has dried for four hours, sand with P320-grit paper, brush on two more coats with the grain, and let it dry overnight.

You are now ready to begin flattening the surface with increasingly finer grits of

Two alternatives to brushing lacquer

Spray lacquer and normal shellac are both easy to apply and repair. While the former has greater resistance to impact, chemicals, and heat, thick coats can look synthetic. Shellac gives rich amber tones with a deep, organic feel.

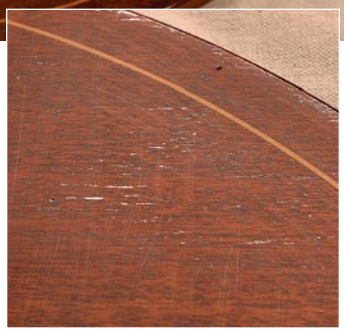
FOR A FAST BUILD, SPRAY LACQUER

Apply two coats of lacquer sanding sealer in quick succession, allowing them to dry for four hours. Sand with P220-grit paper and spray on two coats of clear gloss lacquer reduced by 20%. Wait at least four hours and then block-sand with P320-grit paper. Wipe off the sanding residue and apply two more coats of the clear gloss lacquer, also reduced by 20%, and allow at least eight hours of drying time. Now follow the rubbing-out process described in the article.

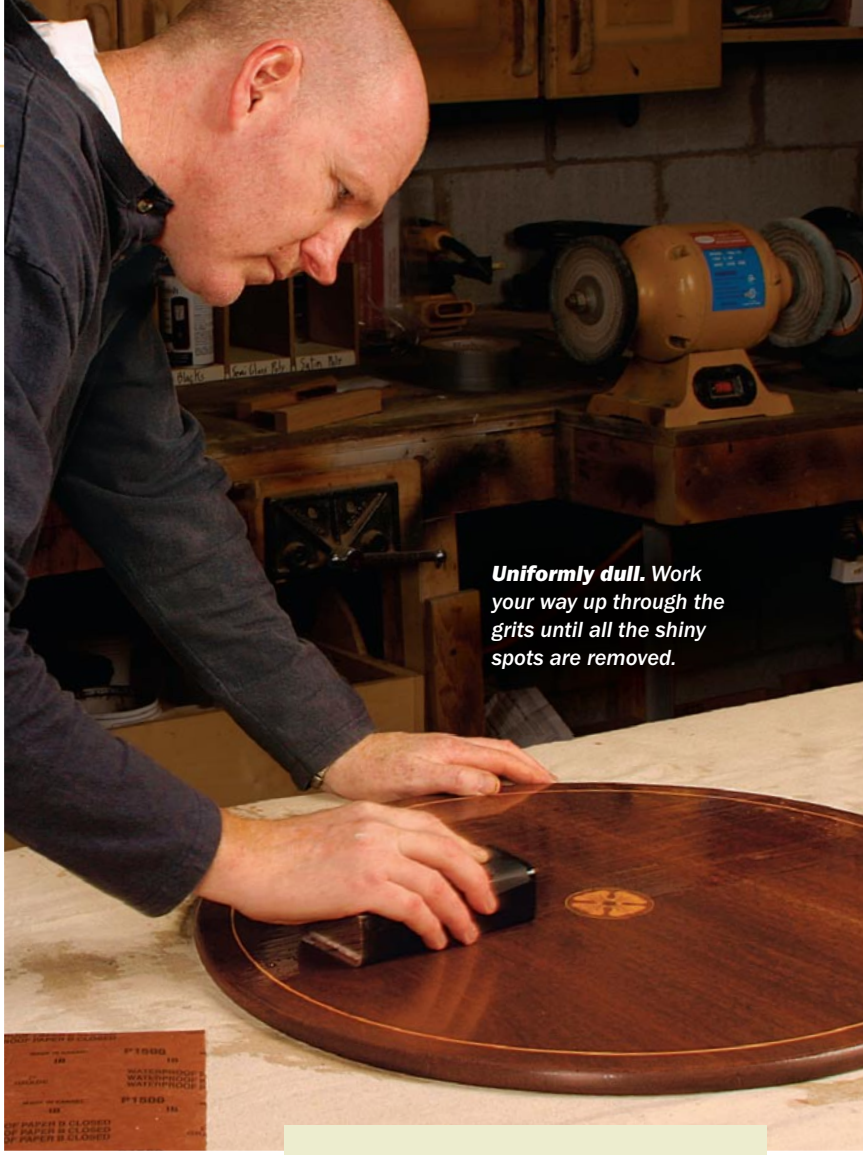
SHELLAC CAN BE BRUSHED OR SPRAYED

Brush on two coats of shellac sanding sealer such as SealCoat. Allow to dry for a minimum of four hours, then block-sand with P220-grit paper. Brush or spray on two coats of a 2-lb. cut of super-blond shellac, allowing 15 minutes between coats. You can use either SealCoat or dissolved flakes. After four hours, block-sand with P220-grit paper, first across the grain, then with the grain. Apply two more coats. Let dry for one or two days before starting the rubbing-out process.

3. Level the topcoat



Start sanding across the grain. *Wrap some 600-grit paper around a cork block and start sanding. Stop frequently to check your progress, and rinse the paper in warm water to resist clogging. Sand away almost all the low, shiny spots (right), but use caution near edges to avoid sanding through.*



Uniformly dull. *Work your way up through the grits until all the shiny spots are removed.*

wet-and-dry sandpaper (all wet-and-dry grits specified are CAMI grade). To lubricate the paper, add one drop of hand soap per 8 oz. of warm water, and change the water each time you move to a higher grit. Start by wrapping a piece of 600-grit paper around a solid cork block (or stick some cork flooring tile to a block of wood), splash a little water on the surface, and sand across the grain in straight strokes. Wipe off the sanding residue frequently with a cotton cloth to monitor your progress and to prevent the paper from clogging too quickly.

Although you aren't aiming to eliminate 100% of the shiny brushed surface, you should come very close, with only a few slight depressions unsanded. Use caution near edges so that you don't sand through the finish. Switch to 1,000-grit paper and sand with the grain, removing the 600-grit lines. Repeat with 1,500 grit across the grain, then 2,000 grit with the grain until all the sanding lines have been removed and the surface is dull but flawless.

At this point, if you choose a hand-rubbed, semigloss sheen, wrap a cork block with Liberon 0000 steel wool and buff with the grain, applying firm, even pressure in long, straight strokes to dull the surface. Apply paste wax and then buff with a clean cotton cloth.

Rub out to a high sheen

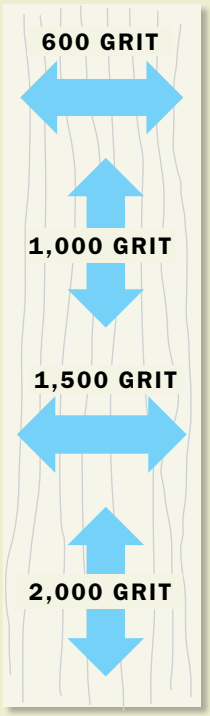
In the past, woodworkers used pumice and rottenstone, lubricated with oil, to rub out a finish. Today's automotive polishing compounds are much easier to use. I use 3M's Imperial Microfinishing Compound-Liquid from www.levineautoparts.com (or ask at your auto-parts store for an alternative).

Elbow grease for small surfaces—If the surface area is small, I polish it by hand. Wrap a cork block with a clean, damp cotton cloth. Apply a small amount of compound and a few drops of water directly to the surface. Begin to polish in a circular motion, working in an area about 8-in. square. As the compound starts to dry out, add a few more drops of water and continue to polish. Apply more compound and water until a high gloss appears and all of the 2,000-grit sanding lines are gone.

Change often to a fresh section of cloth and move across the surface, adding water and compound until all areas are covered. When the whole surface has a high gloss

ALTERNATE DIRECTIONS WHEN LEVELING THE FINISH

Your first shop teacher told you never, ever to sand across the grain, but here is an exception to this rule. Level the surface with 600-grit paper, then progressively reduce the size of the scratches until they are small enough to be rubbed out with polishing compound. It is critical to remove all the scratches, and by alternating the sanding direction, it is much easier to see any scratches that remain from the previous paper.

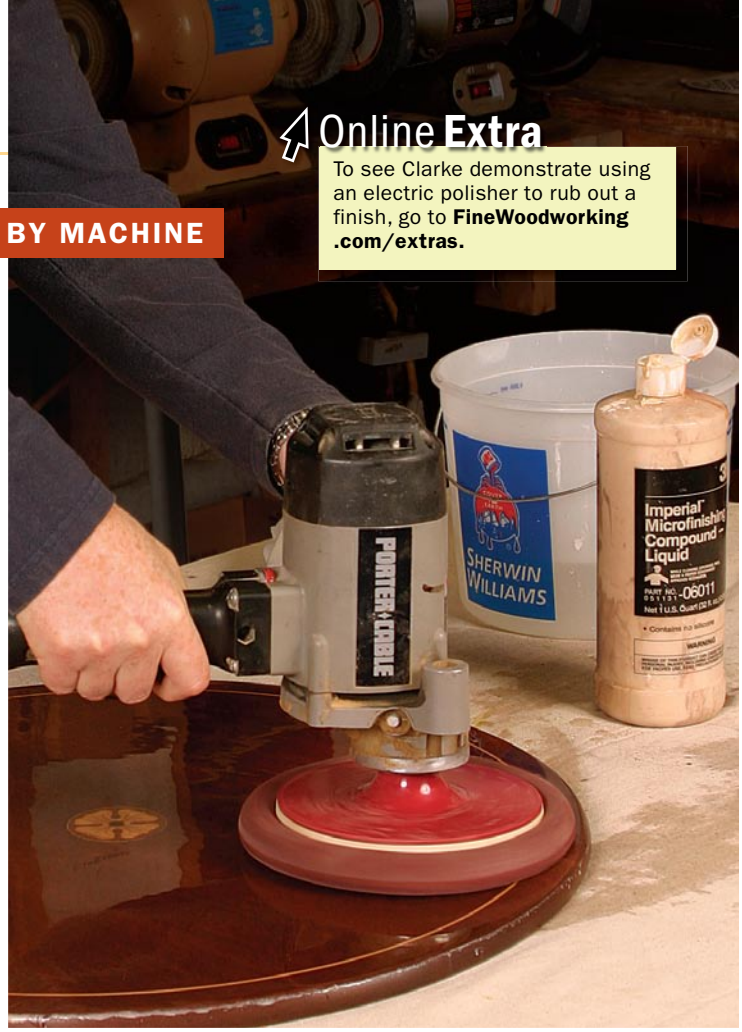


4. Polish to a mirror finish

BY HAND

New material, traditional method. *Automotive polishing compound is less messy than traditional pumice and rottenstone, but you can still work small surfaces and edges by hand using a damp cloth wrapped around a cork block.*

BY MACHINE



Labor-saving method. *An electric polisher with a sponge pad brings up a high-gloss shine in a matter of minutes. Keep the machine moving to avoid overheating the finish.*

Online Extra

To see Clarke demonstrate using an electric polisher to rub out a finish, go to **FineWoodworking.com/extras.**

with no lines, wrap a clean cloth around the block. Sprinkle water on the surface, add a small amount of compound to the cloth, and do a final polish with the grain. Finally, use another clean, dry cloth or paper towel to polish off any residue.

An electric polisher saves time—On a larger surface, I use a polisher with a sponge pad attachment. A right-angle grinder also can be used, if it has variable speed. If you don't have a polisher, you can use a variable-speed electric drill or a random-orbit sander and polishing pads. Be very careful to keep water away from electrical parts.

Moisten the sponge pad to soften it, and then spin the disk a few times to remove surplus water. Apply a few drops of compound directly to the surface, start at one end, and slowly move the buffing wheel back and forth across the grain, polishing out the 2,000-grit sanding lines. Use a slow speed to reduce friction that could blister the finish. Apply more compound and water as needed. Be cautious near the edges where the finish may be slightly thinner.

Once the sanding lines begin to disappear, reduce the amount of compound and increase the water to keep the surface lubricated and cool. Now work the buffer in a circular motion. The surface should take on a high gloss. Once all of the sanding lines are gone, finish polishing by hand, using a cloth-wrapped cork block. □

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Wet-look wood. *Remove any remaining compound with a dry cloth or paper towel. This leaves a rubbed-out, high-gloss finish that gives the wood great clarity and depth.*