

# Get Better Results with Polyurethane

Combine brushing with wiped-on coats for an easy, durable sheen

BY BEN BLACKMAR

I've tried all kinds of finishes in my woodworking career, from beautiful but tedious hand-rubbed oils to quick but expensive sprayed-on lacquers. Nowadays, the finish that I use most often is one of the simplest and most widely available commercial products out there—polyurethane. The finish has significant advantages. First, poly is oil-based, which makes it extremely durable and resistant to water stains. Because of this, it is ideal for tabletops and cabinetry. Poly also cures hard much more quickly than oil, which means you'll be finished in days rather than weeks, and with fewer coats.



**Two products, one finish.** Blackmar starts with a sealer coat of thin, wipe-on polyurethane, then builds up a durable film with two coats of brush-on poly. He follows it with more wipe-on poly.

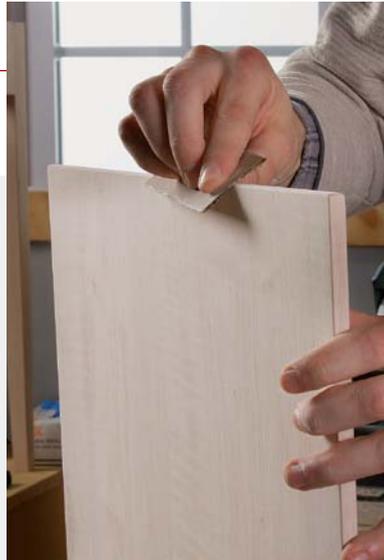
# Wipe on the first coat

A thin application of wipe-on poly seals the wood in preparation for the thicker, brushed-on coats.

## CAREFUL PREP IS CRITICAL



**Sand surfaces smooth.** Sand to P150-grit with a random-orbit sander followed by a sanding block to P220-grit, working in the direction of the grain.



**Break the edges.** Blackmar uses folded P220-grit sandpaper to ease the corners on the top, the legs, and the undersides of the aprons.



**Seal inside with shellac.** To avoid persistent odors from the polyurethane, Blackmar seals the inside of drawer compartments with shellac.

**Wipe on the poly.** Soak a cloth with wipe-on poly (inset) and apply to the entire piece (right). Nitrile gloves keep the finish off your skin.



My approach calls for two different satin-gloss polyurethane products—a fast-drying version of the standard brush-on product, and the thin, wiping variety. I start with a thin coat of wipe-on to seal the surface, followed by several brushed-on coats to build a durable protective film. Then, instead of applying wax, I complete the process with another thin coat or two of wipe-on to perfect the satiny, medium sheen. Here's how I do it.

## First coat seals the surface

To prepare the surface, I first remove all machine marks by sanding up to P150-grit with a random-orbit sander. I follow this by hand-sanding with a block, using P220-grit, until the surface is uniformly flat and smooth, with no visible scratches.

Last, I use the P220-grit to break the edges. A softened corner is easier to finish, nicer to the touch, and more resistant to denting and wear. Afterward, gently remove the dust with an air compressor or wipe down the piece with a dry, lint-free cotton cloth.

I begin applying the finish with a thin coat of wipe-on poly to penetrate and seal the surface. Use a lint-



## Brushing adds protection

The heavier brush-on product quickly builds a clear protective film. Apply two coats, then sand to flatten.



**Don't overload the brush.** It should hold enough finish to keep a wet edge while applying a relatively light coat. Lightly brush away any drips on the top's edge. Apply two coats.

free cotton cloth. Saturate the cloth with finish and wipe it on liberally. Then use a clean, dry cloth to remove any excess. Let the finish dry for several hours.

Be sure to dispose of your used rags properly to avoid the possibility of starting a fire. Before tossing them, dry the rags by spreading them out individually on a flat surface or draping them over the rim of a trash barrel.

### Thicker coats build a protective film

The next two coats get brushed on so you can easily build an even, durable layer. In a warm shop, the “fast-drying” finish lets you lay down these two coats in one day—if you start early enough.

To ensure a smooth coat that is relatively free of brush marks, use a good quality, natural-bristle brush. I've gotten great results with a brush designed for oil paint available at home centers. Brush on a thin but wet coat, quickly smoothing out any runs or drips as you go.

To test whether the first coat is dry enough to continue, brush the surface with the back of a finger in an inconspicuous place. If you leave no marks, it is safe to continue. Apply the second coat, let it dry, then lightly hand-sand the surfaces with P220-grit paper on a block to remove brush marks and other inconsistencies. Work with the grain. Afterward, wipe away the dust and lightly rub down the entire piece with #0000 steel wool. Work with the grain to flatten and create a straight rub pattern on each surface, then wipe away the dust again.

### TIP



#### THIN WHEN NEEDED

If the brush-on poly isn't flowing out evenly, thin it with mineral spirits to help the brush marks level out as the finish cures. Pour the finish and thinner into a measured container. Start with a 1:6 ratio of spirits to poly, testing and adjusting as needed until the finish flows out easily from the brush.

**Remove the brush marks.** After applying two coats, sand the surface with a block and P220-grit paper to flatten brush marks and other inconsistencies. Blackmar softens the block with a layer of cloth and uses steared paper designed not to clog.



**Rubdown before the topcoat.** Rub down the surface with steel wool to level any remaining imperfections.

### The top coats go on with a rag

For the top coats, I use wipe-on poly to create an even, thin layer. These coats dry quickly, so work systematically, smoothing out the most recently applied finish before moving on. Avoid wiping areas you've already covered, even if they appear dry.

Four to six hours after the first coat, when it is dry to the touch, apply another coat the same way. After two or three thin coats, any scratches or marks left from the steel wool should be gone.

Wait a day or two before making a final judgment on the sheen's uniformity. As the last layer cures and hardens, the apparent sheen across the piece will equalize. If you're not satisfied, repeat the steel-wool step and wipe on more poly. □

*Ben Blackmar is an associate editor.*

## Wipe on the final coat

Use a rag to apply the top layer of finish, one thin coat at a time. Let these coats (two or three) dry thoroughly before judging the sheen, which should cure to a uniform satin appearance with no need for waxing.

**TIP**

**BURNISH WITH PAPER**



A folded sheet of white paper is just abrasive enough to remove any dust nibs without scratching the finished surface.