

MAKE YOUR OWN FRICTION POLISH

Background

Almost every new woodturner spends many dollars trying out various commercial finishes for their new, prized turnings. And almost every old woodturner has settled on one or two favorite finishes. It is an area of little consensus. Beauty is in the eye of the beholder, and there is little agreement between woodturners on what is the ideal finish. So ... I'm not proposing that this should be your favorite finish. I do propose, however, that many, many woodturners who have tried friction polish have quickly incorporated it into their finishing strategies.

Friction polish is, at its simplest, just an oil and shellac mix in an alcohol solvent. Friction polishing involves applying the polish using friction to cure it. The polish presented here is very specific as to the materials used, which makes it more versatile than many other formulations.

Friction polish is just a modern-day rediscovery (with some modification of application methodology) of the old French-Polish finish that was made famous by the French Louis XVI-period style of furniture; on which a shellac and oil mixture were applied as a finish using heat from friction to cure the finish.

According to Wikipedia: "***French polishing*** is a wood finishing

technique that results in a very high gloss surface, with a deep colour and chatoyancy. French polishing consists of applying many thin coats of shellac dissolved in alcohol using a rubbing pad lubricated with oil."

All modern friction polishes provide this same very high gloss surface, depth of color, and chatoyancy. If high gloss is not your preference, an overcoat of a satin wiping poly will give you a more subdued finish, and you still get to keep the depth of color and chatoyancy that this finish provides.

You can buy commercially prepared friction polish, but this homemade polish is *far* cheaper; and I contend that it is also superior. The reason the homemade friction polish is superior is because it contains no wax, which greatly expands its versatility. This no-wax feature can be very important, as is explained shortly.

Myland's High Build Friction Polish costs about \$24.00 per 500 mL (500 milliliters) bottle, in 2015, and contains wax, as do all the other commercial friction polishes I have investigated. So, you can spend \$24 for a friction polish that is limited to being the final finish (because of the wax), or you can make the same amount of homemade, dewaxed friction polish for about \$4.00, and not be limited to it being the final finish.

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Many people like friction polish as a final finish, but I don't; because it seldom retains its initial, dazzling luster over time. Nonetheless, I use friction polish on most of my turnings now; as a quick and *outstanding* sealer/undercoat suitable for just about any other finish I want to apply over it. The homemade friction polish -- because it contains no wax -- is an ideal undercoat for varnish, wiping poly, and lacquer finishes. (Try using a waxed friction polish as a seal/undercoat at your own risk!) I used to apply many, many coats of wiping poly to get the finish I liked. Now, I apply friction polish and a couple of coats of wiping poly, save a bucket-load of time, and get a superior finish.

If I want to bring out a deeper color in a turning, I will apply two coats of BLO (boiled linseed oil) first; which accentuates the color of most woods, then I seal the turning with friction polish, and then I apply wiping poly. If this sounds like a lot of work, or a lot of drying time, it isn't. I apply two coats of linseed oil on the lathe, with the piece turning slow-w-w-l-y, or by hand, and let it soak in for 5 minutes, wipe off the excess, and without waiting for the BLO to dry, I apply two quick coats of friction polish, which dry very rapidly, while you apply friction. I then let the piece set overnight, and in the morning I can apply wiping poly.

Making the Friction Polish

To make my homemade High Build Friction Polish with no wax in it, I first had to adjust the ratios. The standard (waxy) friction polish is made from 1 part shellac (3 lb. cut); 1 part denatured alcohol; and 1 part boiled linseed oil. I prefer to think of it as a mix of 2 parts 1.5 lb. cut shellac and 1 part boiled linseed oil. So, to make 450 milliliter (mL) of friction polish from the dewaxed Zinsser Bullseye Sealcoat Shellac, a little bit of math is involved. First, the 1 part boiled linseed oil will be 150 mL (1/3 of the 450 mL, or 1 part of it). Then, we need 300 mL (2 parts) of 1.5 lb. cut shellac -- made from the 2 lb. cut shellac. The math is: 225 mL of 2 lb. cut shellac mixed with 75 mL of denatured alcohol makes 300 mL of 1.5 cut shellac. So, here is the final formula:

To make 16 oz. of Friction Polish:

- 225 mL Sealcoat Shellac
- 75 mL Denatured alcohol
- 150 mL Boiled Linseed Oil

Makes about 450 mL, or 16 oz. (1 pt.)

To make 12 oz. of Friction Polish:

- 170 mL Sealcoat Shellac
- 55 mL Denatured alcohol
- 110 mL Boiled Linseed Oil

Makes about 335 mL, or 12 oz.

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Notes:

1. *If you want a no-wax friction polish, then the **Zinsser Bullseye Sealcoat** is the **ONLY** Zinsser shellac you should buy; because it is the only one they sell that has been dewaxed. Why did they dewax it? Because it is intended as a sealcoat, and wax in a sealcoat is a real no-no.*
 2. *If you have on hand or prefer dewaxed shellac flakes, you can use those instead of buying the Zinsser Bullseye Sealcoat. Just make a 1.5 lb. cut and mix 2 parts shellac to 1 part boiled linseed oil. I don't do this, because it is more expensive, involves more hassle, doesn't keep as long, requires filtering, and often still contains wax -- despite the de-waxed label. The Zinsser product keeps well, and works for me.*
 3. *Most modern kitchen measuring cups now include milliliter (mL) measurements, and they will work, but they're pretty course in terms of precision, so I recommend you buy a cheap plastic graduated cylinder, such as aspiring chemistry students use in their laboratory. Amazon.com sells 100ml graduated cylinders for about \$5 to \$8. (Simply search Amazon using this term: "graduated cylinder 100ml".) Shipping can be free if you combine your order with other items to total more than \$35. Otherwise, expect to pay more for*
- shipping than for the cylinder. A good way to get the free shipping is to get several other woodturners to combine their order with yours, to meet the \$35 minimum for free shipping.*
4. *I use empty plastic Coke bottles to store my friction polish. They're made of a plastic that will not let the alcohol evaporate through the thin plastic walls. Don't use polyethylene bottles, because they are permeable to alcohol (and many other solvent) vapors.*
 5. *My homemade friction polish has a more yellowish cast than the Mylands High Build Friction Polish's brownish cast. The yellow comes from the lighter color linseed oil which I purchased. On wood, the two friction polishes look exactly the same in terms of coloration, but the home-made polish actually has a higher gloss, no doubt due to the absence of wax in the polish.*
 6. *These measurements are not critical. It really won't matter if you are off by 5 or 10 mL on any of the components.*
 7. *Be sure to slosh a small amount (15 mL) of DNA in the graduated cylinder afterwards, to clean it, and leave the cylinder upside down to drain for several minutes before putting it away.*
 8. *Make sure you **label your bottles!** We don't want anyone trying to drink this stuff.*

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How to Apply the Friction Polish

Okay, so now you have made your own friction polish, and you are anxious to try it out. How do you apply it? It is amazingly simple.

Leave your workpiece mounted on your lathe, and set the lathe speed to its lowest. Using a soft paper kitchen towel, or an old cut-up T-shirt folded multiple times to form a pad, pour a liberal amount of friction polish onto the pad. Gently apply the pad to the outside surface of the turning, liberally applying polish. Work quickly. Once you have the entire outside saturated, start pressing down with the pad, to create friction. The piece will dry so fast you'll be shocked. Literally less than a minute. Inspect your work. Note areas where the finish looks thin. Reapply a good coat to the thin areas, and a thinner coat to the entire outside, and then apply friction pressure again. In seconds, your second coat will be dry.

If all the wood pores are well sealed, and the finish is satisfactory, that is it. You're finished with the friction polishing. It can be your final finish, or the base coat for whatever top-coat finish you wish.

However, if the finish, after the second coat, is not quite what you want, don't apply a third coat just yet. Take a clean cloth, with no friction polish on it, and buff the outside applying enough pressure to build up some friction heat. This will cure the two coats more, so you can apply a third, or even fourth coat after a few minutes of this heating process.

Once finished with the outside of the piece, you can finish the inside of it the same way. I don't recommend doing the inside and outside of a bowl at the same time, because your friction polish will dry on one surface before you have time to apply friction, and your resultant finish will probably not please you.

I got started using friction polish when a good friend and fellow woodturner left a bottle of it with me. He literally demanded I try it. I wasn't much interested, and it sat for about 2 or 3 months. Then, to keep him happy, I tried it, still not interested, but just so I could tell him I had; and as they say, the rest is history! Give it a try. And, thanks, Tom, for insisting I try it.

-- Marvin O. Fretwell
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