

Wood Turning Finishing Process

Compiled And Presented by Pete Marken For The 2018
Segmented Woodturners Symposium St Louis Missouri.

Why spend the time and effort to apply the best finish you can to a turning?

- ❖ After spending the time to turn a very nice piece on the lathe, why would you not put a knockout finish on it?
- ❖ While attending several juried art shows and dealing with art galleries I found a few interesting facts:
 1. Most of my pieces are purchased by women
 2. They tend to find highly polished finishes (both gloss and satin) more desirable
 3. They all love to feel the smoothness with their fingers and comment on the exceptional smoothness of the piece

Types of Finish I Prefer

- ❖ MINWAX wipe-on polyurethane (oil based) both gloss and satin



Advantages:

- ❖ Easy to apply
- ❖ Durability
- ❖ Buffs out really well

Disadvantages:

- ❖ Long drying time
- ❖ Can darken some woods

- ❖ General I Turners Finish (water based clear gloss)



Advantages:

- ❖ Easy to apply
- ❖ Dries very quickly
- ❖ Buffs out really well
- ❖ Will not darken wood

Disadvantages:

- ❖ Mainly used for smaller pieces due to quick dry time

Types of Finish I Prefer and Sealers

❖ Spray-on lacquer



Advantages:

- ❖ Easy to apply
- ❖ Dries very quickly
- ❖ No scuffing between coats
- ❖ Buffs out really well
- ❖ Will not darken wood

Disadvantages:

- ❖ Not compatible with many sanding sealers
- ❖ Too much applied will turn milky or develop bubbles
- ❖ Affected by high humidity

❖ Sanding sealers and grain fillers



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Examples Of Different Finishes

General Finishes Wood Turners Finish



Spray-on Lacquer



MINWAX wipe-on polyurethane
(gloss only)



MINWAX wipe-on polyurethane (satin
over gloss)



Surface Preparation

- ❖ Surface prep is just as important as the actual finish itself. For an exceptional finish all pores and tear out have to be dealt with before finishing. Trying to fill open pores with finish can make you want to pull your hair out. The finish can fill the pores but it takes many - many coats and lots of sanding between coats. You might as well try to fill a pot hole.
- ❖ Finishing cuts on the piece are done with negative rake scrapers to eliminate coarse grit sanding. Can usually start with 220 grit then 320.
- ❖ I always apply a couple coats of sanding sealer, the type is dependent on the finish coat to be used.
 - For lacquer any of the sealers can be used as long as a de-waxed shellac based sealer is used as a barrier coat first. These could be Zinsser universal sanding sealer or plain shellac.
 - MINWAX water based sanding sealer will work fine with GF Wood Turners Finish, as well as MINWAX wipe-on poly.
 - If you are finishing an open grain wood it is best to use a grain filler first. You can use many coats of sanding sealer sanding between coats to fill the grain pores, however this can involve many coats that need to be sanded back. I have been using Aqua Coat clear water based grain filler which has a paste consistency, Even this filler needs three or more applications with sanding in between on severely open grain such as Jatoba etc.
 - After applying fillers and sealers I final sand with 320 grit 3M Mylar backed paper. (not paper at all) This stuff resists clogging and lasts pretty long but it is almost \$5 for two sheets available at Lowes.

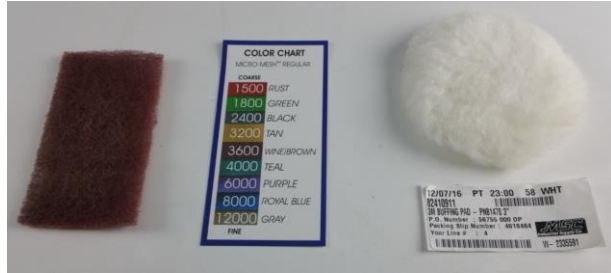
Finish Application

- ❖ All finishes are applied on the lathe running about 40 RPM and kept running until the finish flashes over. Usually about 5 to 10 minutes for oil based poly. Less for faster drying finishes.
- ❖ For MINWAX poly I usually apply seven or eight coats of gloss. After each coat dries (usually 5 to 6 hrs.) I scuff up the finish with a maroon 3m or equivalent pad. The finish is applied with a lint free paper shop cloth (not the kitchen type). **The finish should be applied with light coats. If too much is applied you will get ripples in the finish which will require additional sanding.** When all coats of gloss are applied I apply another five or six coats of satin again scuffing in between coats. The reason for putting as many coats of satin is because during the wet sanding some will be sanded away. By applying the gloss under the satin it gives depth to the finish after final buffing.
- ❖ Lacquer dries very quickly, usually can be re-coated after 15 to 30 minutes. This allows you to apply the finish in one day with no sanding between coats. Lacquer will actually melt the surface of the previous coat allowing good adhesion. As a rule of thumb if you do not re-coat within six hours you will need to lightly sand the finish with 400 grit before additional coating. The down side of lacquer is you can not apply heavy coats as tiny bubbles will form. If this happens you will have to completely sand that coat away. Humidity will also adversely affect lacquer. I use the spray cans for applying more often than not, MINWAX or Watco lacquer.
- ❖ GENERAL FINISHES WOOD TURNERS FINISH is a water based oil infused polyurethane. It is only available in gloss. This finish dries very quickly 10 – 15 minuets. Like lacquer the piece can be finished in one day. I usually apply 8 – 10 coats with a lint free paper shop cloth and scuffing between coats. **The finish should be applied with light coats. If too much is applied you will get ripples in the finish which will require additional sanding.** This is my go to finish for small pieces 8” or less. Not easy to use on large pieces because the finish flashes over very quickly.
- ❖ Note: The flash point is where the finish begins to get slightly tacky and not prone to run.

Wet Sanding and Buffing

- ❖ Before any wet sanding is done, the finished piece must sit for five days or more in order for the finish to thoroughly cure.
- ❖ I use this process for all types of finishes.
- ❖ Before wet sanding with Micro-Mesh any imperfections such as rippling or orange peel need to be removed by sanding with 600 grit wet or dry paper or Abranet.
- ❖ For wet sanding I now use Micro-Mesh sanding pads. They are manufactured by Micro-Finishes in the good old USA. I purchase mine from Woodcraft. They can also be purchased in bulk from the manufacturer. These pads have to be used wet or they will clog. I keep mine in a plastic container full of water all the time. Some people prefer to use a mineral oil as a lubricant. I prefer water since it is less messy and works for me. This material comes in packs containing all 9 grits 1500 through 12000. The 1500 is about the same as 600 grit wet/dry paper. To achieve superior results all nine grits should be used. They are not cheap but well worth the cost. They will last for many uses if kept clean.
- ❖ I run the lathe about 250 - 300 RPM while sanding using light to medium pressure. You can tell when it is working by the white slurry that is formed. The slurry needs to be removed with a paper towel several times during each grit, again going through all nine grits. This can be a little time consuming but well worth the results.
- ❖ While wet sanding care should be taken not to sand through the finish. Avoid sanding corners or thin lips. It is easy to sand through.
- ❖ After wet sanding I use a 3" lambs wool buffing pad with hook and loop backing. They will work with any 3" sanding disk for hook and loop. I apply about three drops of 3M "Finess It" polishing compound to the wool pad roughly 120 degrees apart. Run the lathe about 300 to 400 rpm and slowly start the drill to distribute the polish. Then speed up the drill using medium pressure to buff. After buffing is done and the polish residue has dried, I use a clean hand held 8" lambs wool buffing pad to remove any residue. This is done with moderate pressure and the lathe running about 800 RPM.

Misc. Items:



Maroon mesh pad for scuffing finish
 Micro Mesh grit color chart
 3" lambs wool buffing pad available from
 MSC industrial Supply



3M Finess IT available at most
 auto parts stores or paint and
 body supply stores. About \$20
 for a 16 oz. bottle



Zinsser universal shellac sanding sealer
 Zinsser de-waxed shellac
 MINWAX universal water based sanding sealer
 AquaCoat water based clear grain filler
 AquaCoat X19 high build water based sanding
 sealer.



A small fan speeds up the flashing over point for
 the inside of bowls and vases