

A Super Gloss Finish in under 60 mins Jan 2019

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This is an instruction on how I have used CA glue for a fast gloss finish. Typically, I have used lacquer for finishing but get frustrated at how long it takes to get a perfect gloss finish. With CA glue there are many options to help speed up that process. This is a finish that is often used by pen makers. I'm applying it to larger projects and will explore some variations and options. The goal is to go from bare open grain wood to "ready for the display stand" with a perfect gloss finish in 60 minutes.

Some of the key advantages of CA glue are: -

- It takes seconds to harden to a hard surface – this can take weeks with lacquer
- This can be a big advantage if you want to reverse mount a finished project, you can do this immediately without damaging the finish.
- It can be used to fill grain and voids/dings in one or 2 coats instead of many coats with other finishes
- It can be buffed up to a super gloss finish or adjusted to satin or other levels of finish
- It is clear – although you can buy coloured versions or add pigments
- It comes in various viscosities
- It can be used as a base or grain filler for lacquer, friction polishes, shellac etc.

Some safety tips:-

- CA gets hot when it sets up and will burn you – gloves help!
- It gives off nasty fumes if it sets up too fast – fans / extractors are a big help
- Must use safety glasses or face mask, I've ruined a couple of pairs of specs splashing myself with CA!
- It loves to stick to skin and will melt through rubber gloves, I use disposable vinyl gloves and just change them if I get a hole
- Acetone will remove it from skin etc.

Materials

- CA glue! I recommend thin glue. I use StickFast but many other brands are touted by other users. Medium viscosity glue is also useful for filling larger voids or very open grain. Some people

are very particular about their favorite brand because it is super thin but other people recommend using medium viscosity so try what you have and see if it works for you!

- Paper towels, I use whatever I can scrounge from the kitchen when no-one is looking. People will recommend particular brands, especially low absorbency paper towels but I think anything can be made to work
- Sandpaper – I use either vehicle wet/dry papers up to 2000 grit or micromesh up to 12000 grit for polishing the CA glue to a gloss finish. I prefer to use them wet to prevent clogging and dust.
- Polishes. I have used various plastic polishes such as Hut Ultra Gloss. Automotive polish such as 3m ultrafine machine polish will bring out a nice gloss. You can also get a deeper gloss by overcoating with a friction polish like Hut Crystal Coat. Buffing with carnauba wax adds to the shine. I am sure there are many other possibilities.
- Top coats. If you use CA just as a base/sanding sealer you can top coat with lacquer, polys, shellac, 2-part urethanes etc. I usually use lacquer – Deft rattle cans are one of my favorites, gloss or satin.

Recipes

1. CA glue only. Polished to 2000grit wet/dry or 12000grit micromesh. This gives a mediocre gloss finish that I don't find acceptable by itself. Reflections are very fuzzy and the finish just doesn't seem to have any life to it even as a satin finish.
2. Same as #1, add 3m ultrafine polish. This gives a super nice gloss finish that I have used on a few projects. Reflections are much clearer just a little fuzzy around the edges.
3. Same as #2, add Hut friction polish – the polish adds a nice depth to the gloss and a little crisper reflection.
4. Same as #3, buff with carnauba wax – even shinier! Reflections should be pretty sharp.
5. CA as a grain filler and undercoat. Sand to at least 600grit and overcoat with lacquer. I have used this often for open grain or punky woods, soft/hard wood combinations such as Douglas fir and if I want a satin lacquer finish. The CA gives a solid base for nasty woods and quickly fills open grain with a crystal clear substrate.

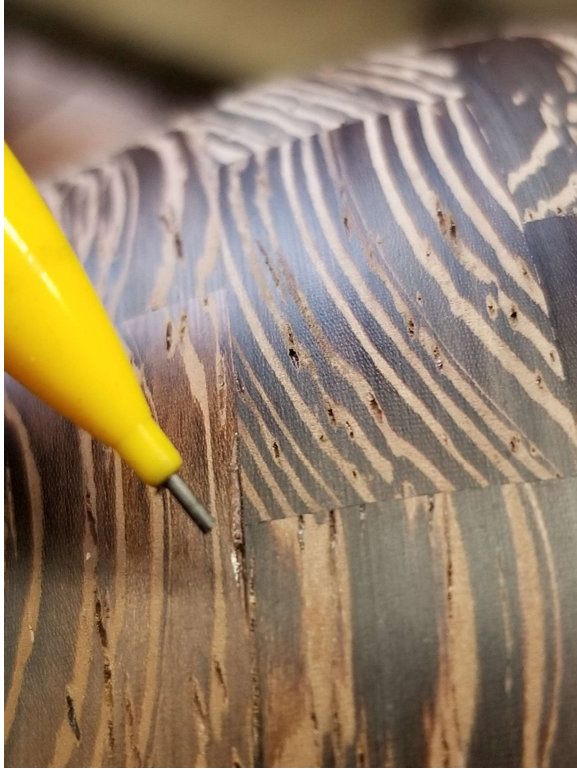
These steps show how to work through #s 1-4 above as well as the base coat for #5.



I – Finish turn and sand project

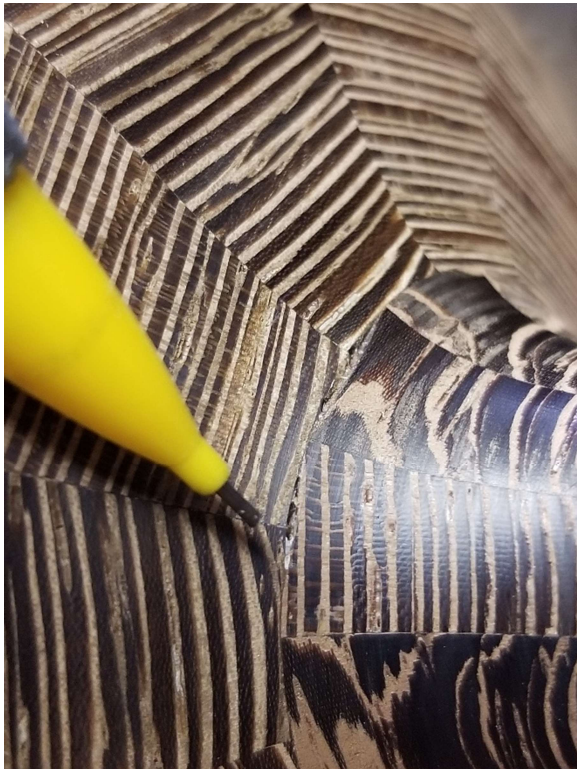
I use a negative rake scraper to finish turn. I spend a lot of time adjusting the form until I like it. Make sure there are no flat spots, the curve must be continuous and gorgeous!!

I dry sanded this with 180 grit running the lathe backwards to direct the dust into the dust collector. About 1000rpm on the lathe. If the sandpaper gets too hot and starts to burnish or plugs you have the speed too fast.



2 – Close inspection

It's time to get out the magnifier glasses and some good lighting. I take a very close look at the surface. You can see the grain I'm up against and also some deeper holes where a piece tore out.



This photo shows some more issues. It looks like I didn't clean up the segments completely. I don't want to fill these as they will likely show in the finish so I adjusted the form to remove them ensuring I still have a pleasant curve. I turned them out with a negative rake scraper.

I'm using Klingspore cloth backed sandpaper and this time sanded dry to 600 grit. 180, 220, 320, 400, 600. Another close inspection is shown on the next page and I have a nice surface but with deep grain pores typical of wenge.



3 – Ready for CA glue

This shows the surface at 600 grit. Smooth dull appearance with no noticeable defects under a magnifier light.

To prepare for glue, I blow off the dust. Tear up a bunch of paper towels into quarter or half sheets. I found half sheets worked better for this size project, they enable me to get more glue on quickly. Time to put on vinyl gloves and face shield. I use the dust collector as a fume extractor. No matter what I'm up against I use thin CA for the first coat to get deep penetration into the wood.

I run the lathe forwards at about 200rpm, apply the glue to the paper towel and wipe it on the vase, quickly wiping across the vase left to right to give a continuous and even coat to the whole surface before the glue starts to set up. Quickly toss the towel on the floor before it sets up – it will get hot. This process takes a little practice. It helps to be confident and work quickly. There are no mistakes that can't be corrected!

I usually alternate adding layers left to right and then right to left to help keep things even. I add 3-4 layers and then spray with accelerator from a yard or so away. You don't want to spray a concentrated blast of accelerator or it will boil the glue and make a mess, just a light dusting to set it off from a distance to set it off.

The first couple of coats take more glue as it absorbs into the wood filling the grain and I had to add more glue as I wiped across. Later coats get easier to apply as it uses less glue.

The photo shows how I apply the glue. There is no glue in this picture as I didn't have enough hands to take the photo and hold the glue bottle but I apply it generously to the paper towel and add more as I wipe across.



I add another 3 coats of glue (total 7 now) and spray again with accelerator. As you can see, I have laid the glue on a little too thick. The surface is very lumpy. A mess but not a big issue. It's pretty easy to sand it down.

With this surface I sanded with 150 grit to start and then 180 and 220. Lathe speed is about 500rpm running backwards. You should get white powdery dust on the sandpaper. If it gets too hot the glue will melt and clog the paper. You will see glossy streaks on the sandpaper clogging the grit. Slow down the lathe speed and/or use a lighter touch if this happens.



I just use a small piece of the cloth backed paper hand held and use a light even load. If your fingers are burning it is likely the glue is melting - reduce lathe speed or use less load.

I had to start with 150 grit due to the bad application of glue but typically I start with 220 grit if I get a nice smooth glue layer.



4 – More glue

After sanding with 220 grit my surface is mostly dull and even but I have quite a few holes which you can easily see as they are shiny. I don't want to sand these out as that will cause me to sand through to the wood in spots and open up grain again so I will add more layers of glue to build up the glue layer depth. This is where I usually spray myself with CA glue because I forget to slow the lathe back down again to 200 rpm – hence the face shield!

I added 4 more glue layers using a little less glue this time, accelerator and sand with 220 and then 320.

I still have some holes and deep shiny spots so 4 more coats, accelerator, sand with 220, 320



I'm getting close now. The surface is pretty even and dull with a few shiny spots. I can spot sand some of these shiny spots with 320 grit but I have a couple of deeper holes that I won't be able to sand out.



5 Prep for polishing

I drop filled the deeper holes with medium glue, just a tiny drop and carefully spot sanded to blend into the rest of the surface.



Here I'm hand sanding with 320 grit to clean up the medium glue filler blobs. After that I sand over the whole vase again with 320, 400 and 600 grit cleaning between grits so ensure no particles leave unwanted scratches. Then I get the magnifier out again. If you can't find any blemishes with a magnifier light you are likely not going to see any with the naked eye.



6 - Polishing

I've switched to wet sanding using micromesh papers 3200 up to 12000 grit. I use slightly soapy water in a spritzer bottle to keep the sandpaper wet and slippery. It's good practice to continue to clean between grits and fully inspect the surface to make sure you are cleaning up all the previous grit scratches.

I run the lathe forward when wet sanding as it makes it easier to capture water between the paper and vase.

At 12000 grit the surface is glossy but kinda hazy.

Look closely at the reflection of the strip lights above my lathe. You can tell they are strips but they are pretty fuzzy. There are also a lot of deeper scratches in places where I didn't spend enough time with some earlier grits so I need to repeat the sanding and take more care to inspect between grits.

To me this surface finish is too dull to be a good gloss finish and too hazy and uneven to be a nice satin finish.

Time to shine it up with the 3M ultrafine machine polish.... I just followed the instructions on the bottle....

Now I have a nice finish. There is a good even gloss surface. The strip light reflections are much clearer, just a little fuzzy around the edges. This is an acceptable finish to me and I have used just this for a few projects.

For fun and experimentation, I'll take a couple more steps.



7 – More shine

I went over it with Hut Crystal Coat which is a liquid friction polish containing shellac and carnauba wax. It's hard to see the difference in the picture but it added more depth to the gloss finish. The reflections are very slightly sharper. I think it is a better finish and worth the extra minute or two to add it.



8 – Even more shine

Here I have buffed the vase with a little carnauba using a buffing wheel mounted on the lathe. Again, it has made a slight improvement. The reflections are definitely slightly sharper. I like it and I'm gonna call it done!

This actually took me about 90 minutes from the first sanding of the vase to Hut crystal coat. I didn't quite make the 60 minute goal but next time will be quicker as I have the sanding schedule figured out and I won't be taking photos!

I managed to drop the vase when I cut it off the lathe, it bounced off the lathe bed a couple of times and onto the concrete floor. I ended up removing the whole finish and starting again but at least I only lost 90 minutes and it was good practice.....



9 – Other projects

This little project had a lot of tear out on some of the end grain leaving some pits. The CA glue did a nice job of filling and evening up the surface. This is a CA glue + 3M ultrafine finish



These 2 projects are made of Douglas fir. The fir is difficult to finish as the summer and winter rings are significantly different in hardness. If you sand it you just get uneven ridges. These were both finish turned with a negative rake scraper and lightly touched with 320 grit paper to help even up the surface. They were then coated with CA glue to fill grain and provide an even hard surface for sanding. They were both then finished with satin lacquer.



If you buff out satin lacquer with buffing medium you can get a super finish sheen a little below gloss. I don't remember if I did that on either of these 2 projects but it's another way to adjust the shine. Buffed out satin lacquer is one of my favourite finishes.

CA glue will work well if you have soft, punky spots in your project. It just soaks in to the soft wood and hardens everything to a workable solid.

Happy finishing!