Thin CA Finish My Way

Contributed by: Harry Anderson

A.K.A “Plano_harry”

Thin CA Finish My Way by Harry Anderson aka Plano_harry

I do not claim to be the best at CA finishing, but this question comes up daily and I can't resist trying to help new turners, because pretty much everything I know about pen making was learned from the masters on this forum. I do think the process is pretty easy to master and would certainly like to help as many beginners get over the CA barrier as quickly and easily as possible. Sorry this is a very lengthy explanation of a process that takes less than 10 minutes to complete, but I wanted to share what I have learned about this often troublesome new skill.

My Early Mistakes

I watched the videos, read the articles and tried to apply it all to my early pens. I started out using 6 coats of thin CA, followed by usually 10 coats of medium CA. I would rub it back and forth a few times. Usually had ridges that needed to be sanded flat, which in the process, often resulted in a small bare spot, requiring more CA and more sanding. I also tried the dribble on the turning blank – smooth out approach, still got ridges that had to be dealt with. Tried foam applicators, different brands of paper towel, blue shop towels, pen part bags. Everything produced the same result, ridges. Sand down to bare wood and start over. I used a LOT of sandpaper.

Biggest beginner mistakes for me were probably over-working the wet CA application and over-sanding. I credit Martin Beauford for suggesting 20 thin coats instead of my thin/medium combo. This has made all the difference in my results. The finish is much better and it takes me much less time than my old process.

The Materials

- Thin CA – most brands will produce good results. I like to use E-Z Bond Thin 50 cps which I buy 8oz at a time to save money over the store brands. I transfer to 2oz bottles fitted with 3 inch long micro tip applicators and store the big bottle in the fridge. No need to cap the CA. The tip of the applicator will seal after you stop using it for the day and the next day you can clip off 1/8 inch from the tip and you are good to go.

- Mirka Abranet sanding mesh 400 grit and 600 grit. Another breakthrough discovery for improving my results. The open mesh allows my vacuum to quickly clear sanding dust from the mesh for optimum cutting. The grit consistency of Abranet is very high which means I never have to spend any time correcting a scratch caused by a rogue piece of grit from budget sandpaper. I also find this stuff lasts a long time so I reuse it over and over until it is worn out. Works wet or dry equally well. The most economical way I have found to buy it is in a 10 pack of 2-1/4 x 8 sheets and cut them in half.

- Denatured alcohol

- Paper towels – I use Brawny, but most brands will work well without causing your CA to set prematurely.

- Nitrile gloves and the smallest size poly pen parts bags.

- Micromesh pads (9) from 1500 to 12000

- Delrin finishing cones (to replace turning bushings during finishing)

- Accelerator spray that is compatible with your CA. I have found that Stick-Fast brand works well with all the CA I have used and is readily available. I do not recommend the pump atomizers because they typically spritz and don't produce a uniform fine vapor like a spray can or pressurized sprayer will.

- Microfiber cloths for cleaning and final polish

The Technique

1. Dry sand the bare blank to 600 grit. Start with whatever grit you need to, based on the turned finish you are able to achieve with your tools.

   Running the lathe about 700 - 1,000 rpm, sand the blank by continuously moving the sanding mesh back and forth to cause a nice cross-hatch scratch pattern on the blank, keeping the dust cleared from the mesh and not clogging up the grit. Stop the lathe and sand in straight lines back and forth longitudinally on the blank while rotating slowly by hand. *This is a key step whether sanding bare wood, acrylic or applied finish.* Be diligent about following this step with each change in sanding grit. All you need to do is sand enough to replace the rotary cross-hatch scratch pattern with your longitudinal scratches. This step levels any grooves from the turning process or the rotational power sanding to produce a flat finish without ripples or waves. *Wipe the sanding grit from the surface before advancing to the next finer grit.*

   When you have worked your way through the 600 grit, you should have a perfect base to apply your finish.

2. Remove the blank from the bushings and replace with a set of Delrin finishing bushings. These are often cones so one size fits all. CA doesn't stick well to Delrin. If you want to improve that, a lite coat of wax on the bushings is extra insurance. They clean easily with acetone if needed. Clean the blank with compressed air if you have it, a toothbrush is a reasonable substitute, and wipe with denatured alcohol to remove wood oils and finger oils. You are now ready to apply the CA.

3. I prefer to wear a nitrile glove to protect my skin from the CA and I like to slip the smallest poly pen parts bag over my index applicator finger because CA does stick to nitrile, not so much to poly.

4. Rather than prepare a bunch of squares of paper towel applicators like I did at first, I now tear a sheet into quarters and fold one quarter into a strip about ¾ - 1 inch wide and about 4 inches long. Much more efficient.

5. Apply CA at approximately 300 – 400 rpm. Apply 2 drops of thin CA to the tip corner of the folded strip and wipe down the blank and back in one quick continuous motion in the time it takes to say zip-zap. Immediately add 2 drops to the same spot a wipe the second coat on in the same way. Flip the strip over 2 drops to the fresh corner and wipe starting from the other end of the blank for balanced application. Immediately add 2 more drops to the same spot and apply coat 4.

6. Snip off a half inch of the strip with the old set CA to expose two fresh corners. A quick blast of accelerator from 8-10" and you are ready for coats 5-8 applied in the same way. After 16-20 coats, you should have a smooth application of CA which will require minimal sanding. A couple of extra shots of accelerator to harden the finish and you are ready to sand. Check the blank carefully to see if there are any pinholes that did not get covered with CA and add a couple of coats if necessary. A fraction of a drop of CA applied with the end of a pin can be used to fill any remaining holes if the wood is very open grained.

7. You can allow the CA to setup as long as you like. If a little is good, then more is better and too much is just right. I have found that by the time I get my sanding water and wash my micromesh pads from the previous use and get back to my lathe, the CA is set well enough. The Delrin cones leave the ends of the blank exposed so CA is naturally wiped over this end grain as the finish was applied above, sealing it from water intrusion during the wet sanding process to follow.

8. Starting with a half worn piece of 400 Abranet wet sand at 700 – 1000 rpm. To help distribute the sanding pressure, I use a piece of micromesh as a backer pad to the Abranet.

   Until you have a feel for your own technique, don't overdo this first sanding step. Stop the lathe, sand longitudinally while rotating the blank by hand. Wipe the blank clean and examine the surface carefully. It should have a smooth flat sheen with no ridges or shiny spots. If you have that, you are ready to move to the next grit. If not, 400 wet sand a little more, always finishing with the lathe off longitudinal sanding and wipe off the grit slurry.

9. Repeat the process with a half worn (now you know what I do with my worn dry abranet) piece of wet 600 grit Abranet and backer pad. Not much sanding is needed here. The surface is already smooth and leveled, you are just taking out the fine 400 longitudinal scratches. Shaping is over. Complete the grit with the lathe off longitudinal sanding and wipe clean.

10. Wet your first micromesh pad and lightly sand the blank. Again, you are only trying to remove the previous grit longitudinal scratches. Probably 10 – 15 seconds, then lathe off longitudinal sanding to remove the rotary scratches, wipe the blank and proceed through the remaining grits.

11. Most turners choose to finish the process with a polish step such as Novus or Stick Fast. I prefer Meguiar's Ultimate Car Polish because it produced the best results in my unscientific test of power polishing a black acrylic plate for my wife. Only the Meguiar's returned the plate to new condition.

12. The final touch is to square the ends of the blank to smooth out any CA ridge and give you a crisp sharp corner to match with the edge of your hardware. If the ends look good, I will usually just put the 400 grit on the lathe bed and holding the blank vertical, make some figure 8's on the paper to sand out any unevenness. If it needs more work I use a small sanding disc in the headstock and pilot transfer punch/Jacob chuck combo in the tail stock to get a perfectly square blank.

I hope that my explanation was clear enough to help you achieve a finish that will amaze and delight.

Sorry if it was too wordy for the type A's, but if you read this far, you're not one.