Makin' Shavin's

Cap'n Eddie Castelin

You've got sand where?

Woodturning, a fantastic way to spend your time while creating items which will impress and amaze your friends and family. No matter how simple the item is; be it an ink pen, bottle stopper, Bowl, key ring, or a myriad of other treasures, they are all special.

But how do we get them that way? Most turning is accomplished using a lathe, that's what turns the wood. But where does the magic, the chatoyance, the beauty come from, the answer is You. I'm not bragging, but for a demonstration, I once turned an ink pen, start to finish, with a kitchen spoon. It was one of those heavy ones from the school system, but it was only a spoon. I used this tool to demonstrate that it's not the tool, but the talent you possess.

When I speak of tools, I'm also speaking of SandPaper, the savior to us all.

We'll cover this later, but you do know that *SandPaper* doesn't really have sand glued to paper? It is a very complex portion of your working environment and needs to be treated as such. I went into the shop this morning and found that I have at least a dozen different types of *SandPaper* in my workspace. From the simple sheets from the hardware store to discs created from Mylar with exotic, man-made abrasives. From strips to disc, from pads to sponges, if it can be made to look and feel like *SandPaper*, it is *SandPaper*.

Sanding?

Just what is sanding, and is smooth enough? That sounds like a tongue twister from the Abbot and Costello Comedy Shows. Sort of like, "who's on first?" But I'm surprised on a regular basis by fair to good turners who just don't understand the process or the procedure for sanding.

SandPaper has been with us since the 13th century, when it was actually sand on a sheet of paper. Or maybe it was crushed shells on a piece of hide or parchment. It was created to smooth out a surface and prepare it for finishing. SandPaper exist in a world of its own with different grits (sand) on different backings (paper). Once you understand the science of the product, you'll begin to create work with better more outstanding finishes than ever before.

I've heard confusing stories about what grit was used for what. I just figure that you know of *sandpape*r as being rough (three rocks on a page) to fine (lots of rocks on a page) to really fine (looks like dust on a page). But all abrasives are developed to a grit code, which should be fairly universal. But be aware, there are no SandPaper police out there and lots of outlaws in that industry, and more in other countries offering you a Special Deal.

When I was an apprentice Cabinet Maker (60 years ago) we had access to paper from 80 to maybe 320 grit. The product was paper or cloth backed and not really friendly to high humidity or the user. We often used the cloth backed products with water, wax or shavings, to produce a really fine sheen on a piece of wood. There wasn't a lot of science in that world and very little "expert advice", except from journeymen. I do remember creating a huge table top for a conference room, sanding my life away with a little vibrating sander, and then being told to watch as my journeyman scraped it to completion.

That's right, he scraped it to completion with a card scraper because that's the technique he learned, used and believed. If you look closely, this is the ultimate sanding effect, no lines, no scratches. There were no grooves, just a level and flat surface.

But today, we have a different world of products to choose from. Personally, I'm a fan of the 3" disc, used on a self-powered sander, in grits from 80 through 400 with stops at 120, 180, 220, 320, etc. That provides me with a workable finish for most projects. But then you get that special work which needs special attention, what do you do then? Not much different, I start at about 80 or 100 grit, get all the surfaces equal in scuffing, and then proceed through the numbers to 400, 600, 800 or even higher grit for a finish. But I have to keep in mind that sanding is just that, Sanding. I'm actually concerned with new turners who believe that if you get to 1000 grit, you've hit the Motherload. Nothing can be farther from the truth. The numbers on the sheet have nothing to do with your finish, your skill and talent will rule the day.

I said that I like the 3" discs on a self-powered sander, that's because the science and physics of sanding dictate that I can achieve a better finish with a swirl cut, rather than a linear cut. Take a look at a disc as it's removing material, if you slow down the action, you will see that it is removing material on two strokes. Sort of like going Vertical and Horizontal at the same time. If controlled, it will result in less grooves, less marking and a more even surface than linear sanding. The self-powered sander uses the movement of the wood as the power required for sanding, but does not over-drive the abrasive's ability to work.

If you choose to use paper, pads, strips, brushes, or any other method, that is fine. If you have questions on sanding or abrasives please contact Vince Welch at www.vinceswoodnwoners.com

But keep in mind that the abrasive you are using has a specific purpose and lots of limits.

Sanding vs Polishing

I've seen some awesome work become just nice when the finish failed. Just so you know, there is no single finish in the world to take the place of a well prepared surface. When you sand a piece you are, in essence, removing a portion of the surface. The heavier the grit, the more you remove. But, no matter what, you are removing the surface to a different scuffing. I said Scuffing because that is what you are doing. You scuff the wood to an 80 grit smoothness, then reduce that with 120, then 180, then 220 and so on. What you are doing is removing the larger scuffs (80 grit) and replacing them with small scuffs (120 grit) and so on. The more you scuff, or sand, the less scratches on the surface. What they have done with the heat of buffing and the abrasives of the compounds is compressed or reduced the scratches to provide that effect.

Now what is the difference between Sanding and Polishing?

As I said, Sanding is removing material and reducing scratches. Those scratches hold back the natural color of the wood and its texture. For example, take a piece of plexi-glass material, remove the protection paper and look through it. You can see clearly, with no interruptions, flaws or waves. But then take a piece of 120 grit paper and scuff up the surface. What happened to your clear view? You can't see through the scratches, no matter how much finish you put on top of it. When you sand, you remove the ridges or reduce them to a size you can handle. But how is that different than Polishing.

Polishing is a finish, preparing it for show and handling. I can take a piece of Home Depot 2X4, make it as slick as glass by burnishing or polishing. It will certainly be smooth, but will it take a finish. Try this with the 2X4 and use a piece of Oak, steel, brass, copper, glass, rock or anything harder to achieve this finish. You'll remove all the grooves, marks, lines and the ability to apply a finish. But it did look really good, for just a minute.

I know there are groups of folks selling polishing kits for your lathe, grinder or powered shaft. I've seen the demonstrations where they take a piece of lightly sanded wood and make it sparkle like gold. What they have done with the heat of buffing, and the abrasives of the compounds. They have compressed or reduced the scratches to provide that effect.

Nothing wrong with this, if you're in a real hurry and will never see the piece after it has moved. Yes, materials do move, all materials move, and they all move at different rates for different reasons. I really like polishing rigs, wheels and compounds, but I like to use them to polish a surface, not create one. When I complete a nice pen set or bottle stopper, finish it with sealer, *Shine Juice*, and then *CA* (Super Glue), I will polish the finish to a glass like appearance by removing surface defects and scratches in the finish, not the wood.

Then what?

Your art piece, and that's what it really is, has been sanded to remove all the scratches of scuffs. It is now ready for the finish. A finish is just that, it's not the special product in the pretty bottle at the wood store, it's a combination of products and efforts you put forth to achieve a Finish.

From the basics, I really don't believe that a single product exists to go over turned wood and provide a great finish. There are many products which proclaim that if you use this miracle juice, you're finished and done. But what is it and just how finished are you?

The combination of products and efforts can be compared to getting dressed for work, on a cold and rainy day. You would start with underwear, then your clothes, then you would add a jacket or covering, because it's cold, and finally, the rain slicker for protection. Finishing wood is practically the same thing.

Underwear, this is a sealer of some sorts. This will close the pores of the wood and stabilize the entire surface. I live and die for Deft Lacquer Sanding Sealer as a sealer on most projects. This is the base coat of almost all finishes because it brings the entire surface to an even keel.

I learned in Cabinet Making school to starting with a splash coat, meaning a thinned coat, taking a look at the work for defects and then adding another coat after a light buffing. The look will show any dents, scratches or the impact of poor sanding. You can correct the blemishes, reapply the sealer and be ready for the next step.

Clothing, this is the coat which will bring the finish to the quality you are looking for. Applying a finish, such as O.B. Shine Juice, poly acrylic, varnish, etc., is the clothing for your work. This will cover the sealer in a smooth and fluid coat and essentially be the finish you are looking for. Keep in mind, you are lightly sanding between coats of thinned sealer, sealer and top coat and then your finish. Sanding to remove any contaminants like dust, towel lint, fingerprints and the like. A light sand makes all things equal.

Covering, because this is a finish, you have to apply a base product to achieve the clothing portion of this puzzle. I've used almost all the store brand products, the *Miracle Finishes* from the shows and a lot of concoctions created by other woodturners or finishers. O.B. Shine Juice is named after a great turner friend from Lafayette, LA. *O.B. Lacoste* entered the turning world when he was in his 60's as a way to recoup from a stroke. His mixture appeared to be very unique, until I remembered using it 50 years ago in a cabinet shop as a base sealer on repaired furniture. The combination, in equal parts, of *Boiled Linseed Oil*, *Clear Shellac* and *Denatured Alcohol*, creates a coating which is easy to apply, easy to work and a finish which will shine like a diamond when applied. But that coating will begin to dull in appearance over time and will help the piece sparkle if you incorporate a rain slicker.

Rain Slicker, it's not really a rain slicker, but it's close. Finished pieces get handled, from that ink pen to the platter, to the bowl, they all get touched by one of the dirtiest things on our planet, human hands. You have to provide protection from that abuse. I used to think that a good coating of hard wax and some buffing would do it. But I found that a drug I take for my brain tumor puts off a residue in my fingerprint, the same way that sweat does with everybody else. The wax wasn't good enough for protection. Sure, I could reapply it, buff it and hope to keep it in shape, but what if it's a piece I sell or give away, do I have to make house calls? I have recently adopted a final coat of CA glue over the finished piece to create what I call a "Bullet Proof" protector. CA (Cyanoacrylate Acid) is commonly called Super Glue.

I'm not taking about the little squirt tubes at the drug store check-out, I'm talking about *Super Glue* on a 2 ounce scale. CA is available in several viscosities and flexibilities, many geared just for the woodturner. It provides the most durable finish you'll ever require, is easy to apply and can be buffed (polished) like glass. My preference is applying several very light coats, a little accelerant, and then the buffing. I normally use a thin product from *Starbond* Adhesives. *Starbond* ships direct to you, the turner, and the product is fresh and guaranteed. I've recently experimented with other brands of CA, some of which cure slower and require the accelerant, but I have not been satisfied with the results. (A new container converted to brick before I even got it opened). I've heard others brag on the ease of application and the results, when I get to try it again, I will report.

Conclusion-

The thing to remember about this finish is, this is a finish. Your art is worth the extra time and effort, give up a little more and get a lot more in return.

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