

WoVA Finising Discussion

Factors in Creating a Quality Finish

- Safety
 - Dust
 - Collect at the source
 - Dust masks
 - Fumes
 - Eye Protection
 - Liquid flying off of moving wood
 - Hands
 - gloves
- Surface Preparation
 - Smooth Surface “Off the Tool”
 - Sharp Tools
 - Learn to sharpen
 - Rotate carbide blades
 - Shear Cut
 - “Allows you to start sanding with 240 grit instead of 60 grit” – David Ellsworth
 - Bowl gouge – use side of the gouge with shaft at 45 degrees
 - Carbide cutter – use new Woodpeckers Ultra Shear tools
 - Sanding
 - Some Fundamental Truths
 - Smoothness is an illusion – Even a highly polished metal surface has a collection of scratches but they are so fine you just can't see them. The same is true with wood.
 - Your final sanding should be with the grain
 - Dull 180 grit is not the same as 220 grit – sharp grit cuts dull grit burnishes
 - Do not sand on top of a defect, sand around it
 - You can actually sand too much – Finer and finer grits will start to burnish the wood which will prevent the wood from absorbing finish (you may want this on end-grain)
 - Techniques
 - Pick your starting grit
 - The first grit cleans up the surface – tool marks, small defects
 - Subsequent grits clean up previous grit scratch marks
 - Important: Total sanding time is faster if you start with the correct grit so don't be afraid of a courser grit if necessary (or go back to a tool).
 - Slow the lathe down
 - Heat means you are creating friction and not cutting
 - Give the paper time to do it's work – dust collects in-between grit particles and needs time to clear out
 - Watch the dust coming off the paper
 - you should see dust, if not you are no longer cutting and need new paper
 - Look for dust collection on surface – could indicate a low spot which needs attention.
 - Keep the abrasive clean and do not allow to burn into the abrasive surface

- Start with a firm support behind the paper and move to softer supports with finer grits
 - Firm support will allow the paper to cut the high points and not ride into valleys
 - Softer support will conform to the surface and give a smoother surface
- Know when to switch grits
 - Take a critical look at the surface – scratches are ok, but defects are not
 - Fix radial scratches, tear out, flat spots or grooves
 - Close your eyes and use you sense of touch
 - Use a technique called 'trace coating'
- Use all the grits
 - Remember – the first grit cleans the surface, the remaining grits remove previous grit scratch marks
 - Skipping grits means more (and longer) sanding
 - Use clean sandpaper
 - Know when to stop – usually between 180 to 400 depending on finish to be used
- Sanding Tools
 - Power sanding – angled variable speed drill,
 - Spinning (kinetic) bowl sanders
 - Foam padded Velcro sanding mandrels
 - Interface pads of various density (hardness)
 - sand paper disks & sheets
 - Typically Aluminum Oxide (AO) sandpaper – open coat, fractures
 - Normally not Silicon Carbide (SC) paper – black color and closed coat
 - Garnet – fractures quickly but wears out quickly
 - 3M sanding sheets
- Finishes
 - Criteria for choosing a finish
 - Type of wood
 - Project size
 - Durability
 - Drying Time
 - Desired sheen
 - Ease of application
 - Solvent or water based
 - Cleanup
 - Food Safe

- Types of Finishes
 - Wax (Renaissance, Dr. Woodshop micro crystal wax, Briwax, others)
 - Transparent, can have high gloss when buffed, very little protection
 - Shellac/Wax/Solvent (Dr. Woodshop Pens Plus, Mylands, others)
 - Apply on the lathe, easy to apply, friction creates high gloss, better protection than wax but decreases with age. Nice for smaller objects and objects with minimal usage. Dry when coming off the lathe.
 - Oil (Walnut, Tung, others)
 - Soak into the wood to 'pop' the grain, polymerizes and strengthen wood fibers, provides a warm, soft hand-rubbed look and feel. Long drying time.
 - Oil/varnish or urethane mixes (Danish Oil, Seal-A-Cell, Arm-R-Seal, Waterlox, Winburn, others)
 - Dependent on oil/varnish ratios, high oil formulations act like oil finishes with minimum surface build; high varnish formulations build surface protection. Can produce a nice glow all the way to high gloss. Long drying time.
 - Spray/brush-on (lacquer, shellac, varnish, others)
 - Very easy to apply as a spray on or off the lathe. Build surface protection and can be rubbed and buffed to a high gloss. More susceptible to damage by alcohol, perfumes or other chemicals. Very fast drying time.
 - Others (CA glue)
 - Very hard and durable finish for small items. Typically used as a finish on pens. Very fast drying time but very toxic.
 - Buffing System (Beal Buffing system)
 - Buffing wheels with various buffing compounds and wax. Can be used after many of the finishes mentioned above to add a high gloss waxed surface. Does not add significant protection.

Which finish should I use?

Look at the criteria for picking a finish and select a few products from each category and try them. The final look is a personal decision based on your personal taste and expectations of your 'customer'.

Products to start with based on experiences within the club:

- Renaissance Wax
- Drs Woodshop Microcrystal Wax
- Aussie Oil
- Drs Woodshop Pens Plus
- Myland's Friction Polish
- Walnut/Tung Oil
- Seal-A-Cell
- Arm-R-Seal
- Waterlox
- Danish Oil
- Deft lacquer
- Winburn Formulation
 - 1 part (5.3 oz) MinWax Gloss Poly – Fast drying
 - 2 parts (10.6 oz) Tung Oil
 - 3 parts (15.9 oz) Odorless Mineral Spirits