# Finishing for Wood Turners

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# Outline

Surface preparation

Coloring wood

Topcoats

Application tools

Finishing the finish

Questions

# Surface Preparation

a. Optionally fill defects with epoxy, thick CA (thin wicks), finish, glue, or wood
b. Tint with wood dust, UTCs, pigment powder, charcoal, coffee grounds, turquoise, etc.
c. Sandpaper ANSI/CAMI and FEPA graded, mind the differences above 220
d. Start with as coarse a grit as you need to efficiently remove all defects, get all scratches from previous grit with current one, won't get with next one
e. Use dust collection and remove residue from object between grits
f. Then progress through each grit to make scratches finer, no more than 50 % jump
g. Keep the paper moving, fresh and sharp to avoid heat and glazing
h. Raking incandescent light and wetting with solvent help show scratches
i. Power sanding with drill and disc, top and bottom cut across grain, less obvious scratches
j. Left and right side of disc go against or with direction of rotation, against most aggressive, sand at or just below center on outside, bottom of disc in lower left quadrant inside, can spot sand with lathe off for natural edge bowls
k. Sand with lathe at 400 rpm or lower and or by hand with the grain to get circular scratches
l. Torn grain can be stiffened with shellac, wood hardener or lubricated with finish or wax
m. Dents can be steamed out

# Coloring Wood

a. Stain contains pigment and is not much used by turners
b. Pigment particles lodge in pores and scratches to color
c. Dye is molecular and absorbs into wood fibers, transparent
d. Dye highlights figure and can be used to great creative effect
e. Can be water, oil or alcohol based
f. Toner is color mixed into the finish
g. Oil and water do not mix, unless at least 3 day dry time between
h. Water base color needs to be sealed or have a binder if topcoat with water base unless spray

# Topcoats - Penetrating oils

i. Boiled Linseed Oil, 100 percent Tung oil, Danish oil, oil-varnish blends
ii. Do not build a film, low sheen, not as protective as film finishes
iii. Wipe on, let sit 5 to 10 minutes, add more to dry spots, wipe off all excess before gets tacky, wipe any bleeding from pores
iv. Recoat after at least an overnight dry until get the desired sheen
v. 100 percent tung oil needs at least 3 days to dry
vi. Very easy to apply and gives an “in the wood” look
vii. Thinner and cleanup is mineral spirits
viii. Dispose of rags properly to avoid spontaneous combustion

# Topcoats - Penetrating oils continued

I. Mineral oil is non curing and edible
II. Walnut oil is semi curing, edible, cures very slowly and soft
III. Most of these oils absorb into the wood with the rest eventually washing off cutting boards and salad bowls, just apply another coat

# Topcoats -Film Forming Finishes

Varnish, Polyurethane, Wiping Varnish

1. Forms a protective film and builds a sheen
2. Can look like an oil finish with 1 or 2 thin coats of satin
3. Wipe on, let sit, wipe off excess before it dries overnight
4. Apply additional coats to desired sheen
5. Lightly sand/rub between coats to smooth dust nibs
6. Thinner and cleanup is mineral spirits

# Topcoats -Film Forming Finishes

i. Shellac
    1. Very fast drying
    2. Solvent, thinner and cleanup is denatured alcohol
    3. Dewaxed is compatible with everything and a great sealer
ii. Lacquer
    1. Very fast drying so best sprayed
    2. Solvent, thinner and cleanup is lacquer thinner
iii. Water base
    1. Dries fast, almost as protective as solvent based poly
    2. Thinner and cleanup is water, so it raises the grain
    3. Will not warm/amber the wood on it’s own
    4. Low fumes, explosion and fire proof

# Topcoats -Film Forming Finishes

i. Friction polish
    1. Usually shellac and wax or oil
    2. Applied to spinning object, dries very fast
    3. Can make own with shellac, alcohol, and boiled linseed oil
    4. Apply sparingly so get enough heat with friction
ii. Cyanoacrylate or CA glue
    1. Pen turners like it for durability and gloss sheen

# Wax

i. Minimal protection by itself, can be thinned with mineral spirits
ii. Adds nice feel and satin sheen over another finish

# Application Tools

a. Cotton rags for oil and solvent based products, paper towel for safety if lathe spinning
b. Paper towel, foam brush or synthetic brush for water base products
c. Spray cans of shellac, lacquer, water base, toners
d. Rotate lathe by hand and safely deal with fumes when spraying

# Finishing the Finish

a. Allow enough time for cure, especially if rubbing/buffing to gloss
b. Shellac and lacquer cure in a week, varnish and water base take a month
c. Abrasives to rub smooth and to desired sheen from flat, satin or gloss
d. 0000 steel wool rubs to satin, use synthetic on water base
e. Buffing systems like Beal
f. Wax adds satin sheen and silky feel

# Questions?

a. What is a sealer and do I need it
b. What is a food safe finish
c. How do I select the best finish (protection, application and appearance)
d. What is inVelvit Oil