

Finishing Techniques

Al Miotke

Sept 8, 2020

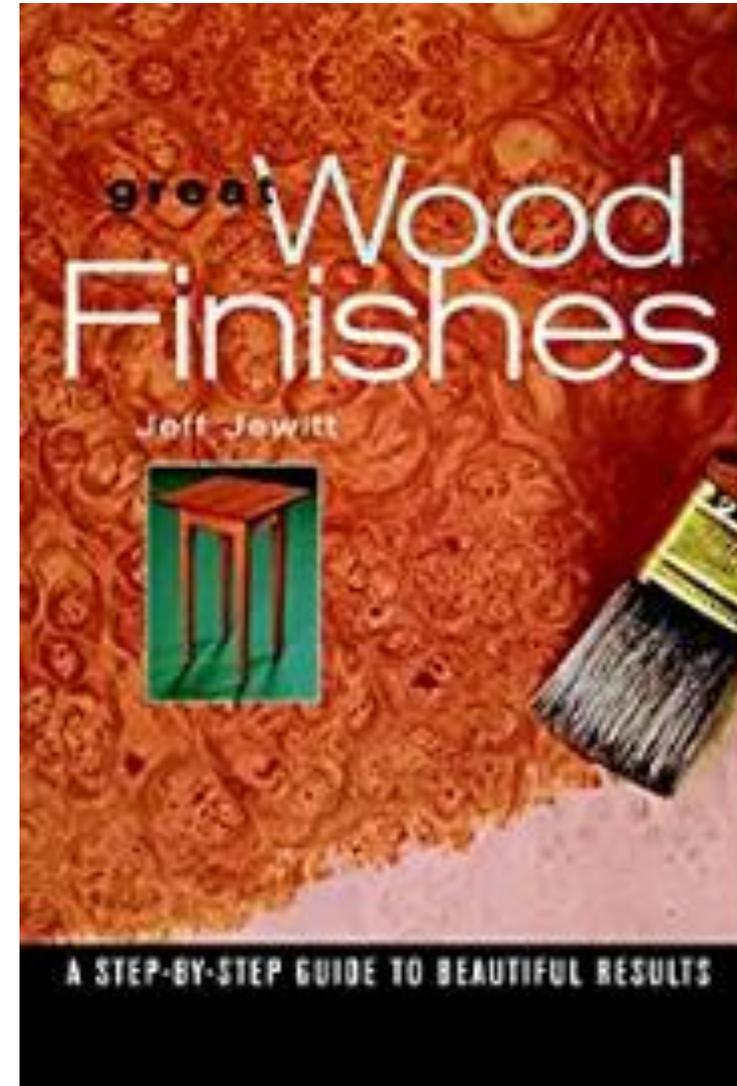
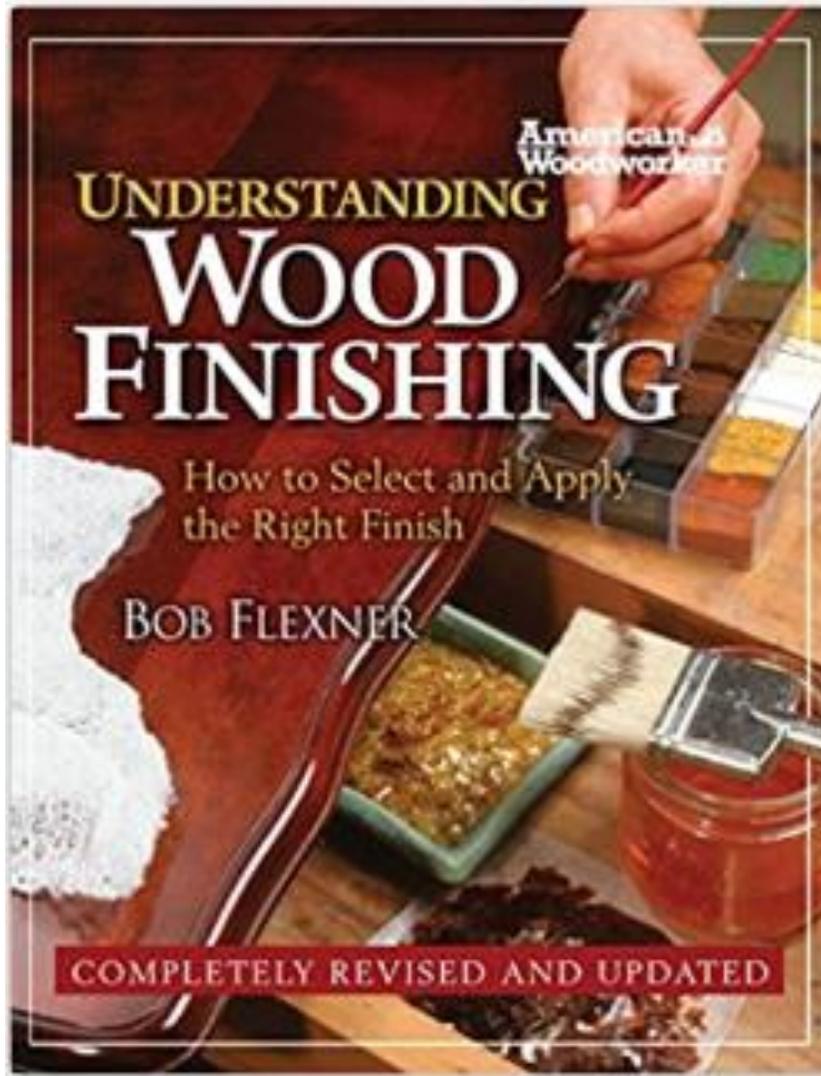
Share your ideas



Agenda

1. Preparing the surface
2. Types of Finishes
3. Goals of the final finish
4. Pro's/Con's of each finish option
5. Filling the grain
6. Finish the finish
7. Applying a Gloss finish

Good Reference materials



Three stages of finishing

1. Surface preparation
2. Selecting and applying the finish
3. Finishing the finish

**Select the best
finish for each
piece**



Surface Preparation

1. Cut as clean as possible.
2. Go thru the grits to at least 320 or 400.
 - Depends on type of wood and finish you plan to apply and sheen you want.
3. Sand with the grain with last grit.
4. Don't overheat the wood. Keep speed low.
5. Don't over sand especially on soft or open grain woods.

Finish types

Penetrating Oil

Film

Oil/Varnish
Blends

Wax

Other

Non Drying Oil

Drying oils

Mineral Oil

Boiled Linseed
oil

Shellac
(evaporative)

Carnauba

CA finish

Tung Oil

Lacquer
(evaporative)

Beeswax

Walnut Oil

Varnish
Polyurethane, Spar
(Reactive)

Micro-
Crystalline

What are the common Finishes?

1) Oil

- Natural product extracted from walnut, linseed, Tung, soy bean, etc.
- Polymerized oil is heated to about 500 degrees in absence of oxygen, dryers sometimes added. Goal is to dry faster
- Provided a natural looking finish but limited protection

2) Shellac

- Shellac is a resin secreted by the female lac bug on trees in the forests of India and Thailand.
- Friction Polish – Shellac, Alcohol, Boiled Linseed Oil, Beeswax optional

3) Varnish

- Synthetic product made by cooking a drying oil and add resin like urethane or Alkalyd.
- Wiping Varnish – Varnish/thinner blend

4) Lacquer

- Nitrocellulose lacquer is mostly solvent-based and comprised of plant-based substances like cotton, mixed nitric and sulfuric acids.



5) Wax

- Beeswax, carnuba
- Provides little protection but adds sheen and maintains natural color
- Used as both a finish and a polish.



6) Oil/Varnish Blends

- Mixture of oil/varnish/thinner

7) CA finish

8) Matte finishes



Some Common blended finishes

1. Waterlox
2. Watco Danish Oil
3. Deft Danish Oil
4. Maloof Finish
5. Minwax Tung Oil Finish
6. Minwax Antique Oil Finish
7. Velvit Oil
8. Behlens Salad Bowl Finish
9. Behlens Teak Oil
10. Watco Teak Oil
11. Formbys Tung Oil finish
12. McCloskeys Tung Oil

Goals

Characteristic	Finish type
Finish that does not change color	1) Water based Polyurethane 2) Lacquer
Fast drying	1) Lacquer 2) Shellac 3) Water Based Poly
Easy to Repair	1) Lacquer 2) Shellac
Durability	1) Polyurethane 2) Varnish 3) Lacquer
Highlight grain and figure Preserve natural look of the wood	1) Drying Oils 2) Oil/varnish blends
Build a High Gloss Finish	1) Lacquer 2) Shellac 3) Varnish's
Easy to apply	1) Oil's 2) Wiping finishes

Finish	Pro's	Con's
Oil	<ul style="list-style-type: none"> • Simple to apply • Maintains natural look of wood 	<ul style="list-style-type: none"> • Minimal protection • Difficult to build a sheen other than Satin. Tung Oil is dull
Varnish	<ul style="list-style-type: none"> • Excellent resistance to heat, water, wear, solvents. • Easy to brush or wipe if diluted. 	<ul style="list-style-type: none"> • Slow curing causing dust contamination • Adds yellow tint over time(could be a pro)
Shellac	<ul style="list-style-type: none"> • Fast curing • Easy to rub to a high sheen • Good clarity and depth • Excellent barrier to other stains, finishes • Natural product, solvent is not as dangerous to breath 	<ul style="list-style-type: none"> • Low resistance to heat, water, solvents. • Moderate resistance to wear • Short shelf life
Lacquer	<ul style="list-style-type: none"> • Very fast curing • Excellent Clarity • Excellent rubbing properties 	<ul style="list-style-type: none"> • Toxic solvent and air polluting. • Moderate protection from heat, wear, solvents, water

Fill the grain

1) Grain filler

- Clear Aqua Coat

2) Sanding Sealer

- Shellac or Lacquer with stearates added as a lubricant
- Zinsser (wax free)
- Bond to final finish weaker

3) Use the finish

- Varnish /Lacquer
- Requires many coats

4) Sand with an oil lubricant.

- Not effective especially for open grain woods



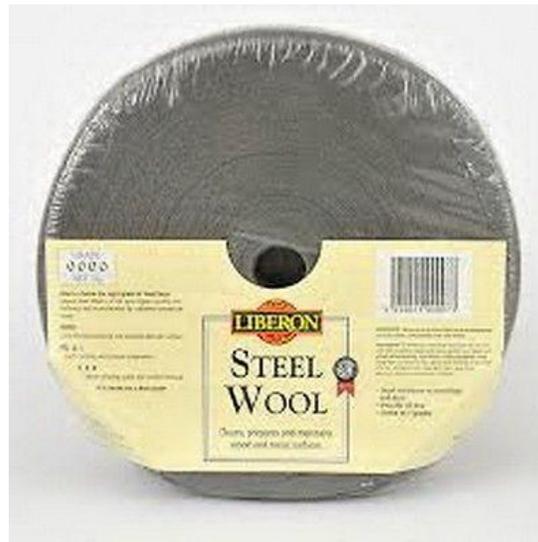
Finish the Finish

Goals

- 1) Creates the sheen you desire.
- 2) Creates a smooth silky feel.

Techniques

1. Let the finish properly cure.
 - Min 1 wk. for Lacquer/shellac
 - Min 2 wks. for Varnishes
2. #0000 Steel Wool.
3. Sandpaper up to 10,000 Grit.
4. Rubbing/Polishing compounds.
 - Meguiars
5. Buffing wheels.
 - Beall system - Tripoli, White Diamond, Carnuba Wax



My method for a built-up varnish finish...or lacquer

- 1) Sand the wood
 - Inspect for small scratches using mineral spirits or diluted shellac.
- 2) If an open grain wood consider a clear pore filler like AquaCoat.
- 3) Sand back to bare wood.
- 4) Do steps 2-3 again if needed.
- 5) Apply 2 coats of gloss varnish with a brush or foam pad.
- 6) Sand back to almost bare wood.
- 7) Continue with steps 2 and 3 as needed.
- 8) Final 2 coats use a wiping Varnish.
- 9) Allow 2 weeks to cure.
- 10) sand with 1000 grit and/or #0000 steel wool.
- 11) Buff to the desired finish.

Finish compatibility

Varnish over Oil	Yes
Lacquer over Oil	Yes(make sure oil is dry)
Oil over Varnish/Lacquer	NO
Varnish over Lacquer	OK
Lacquer over Varnish	NO
Varnish/Lacquer over Shellac	Yes
Shellac over Varnish/Lacquer	Yes
Oil over Shellac	No

