

2018 Finishes and Finishing update 8/18

To seal and protect wood: prepared by Sam Angelo

❖ Considerations for the selection and use of a particular finish

- Cost
- Drying or cure time
- Intended use of the piece
- Appearance
- Application

The information below is based upon my own research, knowledge and experiences on the topic of applying a finish to the surface of wood.

<p><u>REACTIVE</u> CHEMICAL CHANGE TAKES PLACE Combining finish and solvent</p>	<p><u>EVAPORATIVE</u> THESE FINISHES DRY AS THEIR SOLVENTS DISPERSE INTO THE AIR (Shellac and Lacquer CAN BE DISSOLVED WITH THEIR RESPECTIVE SOLVENT)</p>		
<p>Tung Oil/Linseed Oil/Nut oils/Varnish/Poly/Urethane</p>	<p>SHELLAC</p>	<p>LACQUER</p>	<p>WATER-BASED</p>
<p>PENETRATES/SEALS SURFACE FINISH</p>	<p>SEALS/FAST DRYING</p> <p>KEEP FROM WATER/ALCOHOL HIGH WEAR AREAS</p> <p>REAPIRS ARE EASY</p>	<p>FAST DRYING</p> <p>BETTER PROTECTION THAN SHELLAC (KITCHIN CABINETS)</p> <p>REAPIRS ARE Fairly EASY</p>	<p>LESS PROTECTION THAN VARNISH/POLY</p> <p>ENVIRONMENTALLY SAFE</p>
<p><u>Application</u>~Conventional Spray equipment, Arisal Can, Brush, Rag: (foam brushes may dissolve with some finishes).</p>			
<p><u>MIX WITH- PETROLEUM DISTILATE</u></p>	<p>Shellac continued</p> <p>MIX WITH- DENATURED ALCOHOL</p> <ul style="list-style-type: none"> ○ Spray ○ Wipe on ○ Brush 	<p>Lacquer continued</p> <p>MIX WITH- LACQUER THINNER</p> <ul style="list-style-type: none"> ○ Spray ○ Wipe on ○ Brush 	<p>Water based continued</p> <p>THIN WITH WATER ?? Best sprayed (?)</p> <p>(NOT RECOMMENDED)</p>
<p>Originally BOILED OR “COOKED” TO FACILITATE THE ADDITION OF DRYERS (RAW LINSEED OIL WILL NOT DRY PROPERLY) Dryers are now added/boiled L-oil MAY DARKEN WOOD</p>	<p>FAST DRYING</p>		<p>MODERATLEY FAST DRYING</p>
<p>SLOW DRYING ADDITIONAL COATS WILL ADHERE MECHANICALLY (SANDING) OR CHEMICALLY (BY NOT BEING TOTALLY DRY)</p>			

FOUND IN NATURE Tung-linseed oil plus others (OILS)	POLYURETHANE IS VARNISH PLUS AN ADDITIONAL RESIN FOR HARDNESS				
HEAVY METAL DRYERS ADDED (VERY HARMFUL) JAPAN DRYER		GOOD PRE-SEALER UNDER VARNISH/POLY Or finish used alone: French polishing. (Shellac and olive oil)	<u>For lacquer and Acrylic finishes.</u> Compatibility with other finishes often relates to expansion and contraction of dissimilar finishes resulting in cracking or separation of top coat		
TUNG, LINSEED, WALNUT, DANISH OIL	MARINE VARNISH DRIES MORE SLOWLY AND IS FLEXIBLE (FOR OUTDOOR USE)				

THINNERS a specific solvent used to “dilute” or thin down a finish.

CONSIDERATIONS: Drying time (evaporation rate), Cost, amount of residue left on surface of wood after cleaning with that respective thinner.

NAPHTHA	ACETONE	DENATURED ALCOHOL	MINERAL SPIRITS	LACQUER THINNER	TURPENTINE
THINS “OILS” ~CAN REPLACE MINERAL SPIRITS	THINS LACQUER	THINS SHELLAC	THINS “OILS”	THINS LACQUER	FOR THINNING PETROLEUM PRODUCTS (slow drying)

Oil Finish Formula: *Such a mixture is based on the use of a common solvent or thinner.*

Mix together 25% of each item listed below. Or. Mix the ingredients and amount of each according to your needs.

Tung Oil-----Expensive/Best oil finish available/slow to dry (considered natural oil)

Linseed oil-----Economical/Found in paints/varnishes for hundreds of years (considered natural oil) dries slower

Varnish-----Mixture of resin, linseed oil and a solvent. Considered a “natural” finish, adds hardness and protection: speeds drying

Mineral spirits-----Thin the formula according to your needs.

Finishing Precepts

- A) Finishes and solvents, **mixed in a liquid or uncured state**, MAY NOT be compatible and **may cause an adverse health reaction**.
- B) When **a finish is cured or the solvent has evaporated** and the surface of the wood is dry, the addition of a dissimilar finish or solvent MAY NOT cause a negative reaction.
- C) What might be considered a “natural” finish might have polymers or dryers that are synthetic.
- D) What might be considered a synthetic or even a plastic finish (polyurethane) can contain natural resins or oils.
- E) **No finish exists in nature that can be used effectively** in its natural state without being processed.
- F) **All finishes have polymers.**
- G) **Mineral oil is not a finish.**
- H) **Re: Food Safe finishes. No finish, when cured, is deadly.**
- I) A particular finish (in my opinion) can result in a surface appearance similar to the appearance of other dissimilar finishes.
 - I. The wood or condition of the wood will often affect the final appearance of the finish drastically.
 - a) Density or porosity of the wood
 - b) Color of the wood
 - c) Figure and grain
 - II. The method of application can also have a dramatic effect on the final finish of a piece.
 - III. The amount of finish sanded off or buffed off the surface can greatly alter the appearance of the finish.
 - IV. Finally, surface treatments such as burnishing can change the appearance of the finish applied.