

California College of the Arts  
CORES-108-12 3D: Hand Production  
TTH 8:00am - 11:00am  
First Year Studios, Room 102

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## WOOD FINISHES

Source: [Understanding Wood Finishing](#) by Bob Flexner

### Why do we finish wood?

1. **Sanitation** - wood is a porous material that can accumulate food, grime, etc. and become a breeding ground for bacteria
2. **Stabilization** - wood is hygroscopic, it absorbs and releases moisture, so it needs to be sealed to prevent wood movement
3. **Decoration** - even if you apply nothing more than a simple oil or wax finish, you are making a decorative/aesthetic choice

### Before you apply finish:

1. **Sand** - using an orbital, belt or hand sander, sand from 80 grit to 400 grit
2. **Clean** - remove dust caused by sanding by brushing, wiping, vacuuming, or blowing the wood off with compressed air
3. **Stain** - when applied to bare wood, stain amplifies the grain and will add color, but also highlights problems in the wood such as scratches, machine marks and uneven density. Some stains also include a protective finish. Check the label to know if you need to add a finish or not. If the stain you are using does not contain a protective finish, you will need to add a separate finish coat after the stain dries.

### What to apply finish with:

Note: All finishes can be wiped on, brushes on, or sprayed. Rags, brushes, and spray guns are simply tools for transferring the liquid finish from the jar to the wood.

1. **Rags** - use cotton rags, dispose of properly (red container in the classroom)
2. **Brush** - the higher quality the brush, the more even the finish. Use any type - natural, synthetic, foam, etc.
3. **Spray gun** - provides a smooth and level coat by atomizing the finish (breaking it into droplets)

### Types of finish:

1. **Wax** - easy to apply, produces a satin sheen, cures soft, and is the least protective of all finishes. The only protection a wax finish provides is reduced abrasive damage, such as scuffs and scrapes. The reason to use wax is to keep the color of the wood as close as possible to the natural color while giving some sheen. Best used on objects that will not be handled regularly.
2. **Oil** - protects wood by soaking into its pores (not sitting on top of the surface like other finishes) and creating a barrier just below the surface, therefore slowing the exchange of water vapor. Oil finishes do not protect against water. Apply a generous coat, wait 5 minutes, and apply more coats (3-4 for oak, 2-3 maple). Common oil finishes: (Straight oil) Linseed, tung, (Polymerized) polymerized oils that perform less like oil and more like varnish.
3. **Varnish** - a combination of oil and a natural or synthetic resin, heated to create a chemically new substance. Varnish forms a film on the surface of the wood, and provides gloss and water resistance. When varnish is layered, it protects wood from all but the most severe scratches. Varnish cures much faster than oil and tend to not have pigment added.
4. **Shellac** - is harvested from the bark of trees where the female lac bug has secreted the substance to help her grab hold of the trunk. These bugs are found in India and Thailand. It scratches more easily than other varnishes and the application is more labor intensive. However, damaged shellac can be fixed by adding another coat. Shellac has longevity, forms an excellent barrier against humidity, and dries quickly. Yet, it also has a short shelf life, and has a poor resistance to water, alcohol, and heat.