Wood Finishes

Basic Properties – Chris Morgan

Solvents

- Mineral Spirits (aka, Paint Thinner)
- Alcohol (denatured ethanol or pure ethanol) Denatured means contaminated with a poison, like methanol
- Lacquer Thinner
- Water

Finish Types

- Oil (Mineral Spirits)
  - Tung (nut of Tung tree) plus drying agent
  - Linseed (flaxseed) plus drying agent – "Boiled Linseed Oil"
- Varnish (Mineral Spirits)
  - Natural vs synthetic (phenolic, alkyd, and Polyurethane – DuPont, 1956)
  - Long oil ("Spar Varnish") or short oil
  - Wiping varnish – 50/50 thinned varnish
  - Water (use synthetic brush) or oil based (use natural bristle brush)
  - Process of making varnish: Resin + Oil + Heat ⟶ Varnish
- Wax (Mineral Spirits)
  - Beeswax
  - Synthetic wax (end product of petroleum distillation)
- Shellac (Alcohol) 1820 - Cocoon, or shell, of the Lac bug; Southeast Asia.
  - Used as a sealer and as a finish
  - Excellent adherence to other finishes and between them
  - Used in "French Polish" finishing
- Lacquer (Lacquer thinner) 1920 - Revolutionized furniture finishes
- Oil/Varnish blends (Mineral Spirits) – "Danish Oil", "Antique Oil", "Tung Oil"
- Catalyzed finishes (like epoxy, 2-part finish. Pre-catalyzed and Post-catalyzed. Conversion varnish)

Finish Properties

- Evaporative (Shellac, Lacquer, Wax) vs Reactive finishes (Varnish, Boiled Linseed Oil)
- Reversible/Repairable (Shellac, Lacquer, Wax) vs non-reversible (Varnish, Oil, Catalyzed)
- Film (Shellac, Lacquer, Varnish, Catalyzed) vs Penetrating (Oil, Oil/Varnish Blends)
- Fast drying (Spray application mostly: Shellac, Lacquer) vs Slow (Apply with brush or rag; Oil, Varnish)
- Moisture resistant (Shellac, Lacquer, Varnish, Catalyzed, Tung Oil) vs not (Linseed Oil, Oil/Varnish Blends, Wax)
- Durable (Catalyzed, Varnish, Lacquer, Shellac) vs not (Oil, Oil/Varnish Blends, Wax)

Testing a finish – First, use alcohol. Second, use lacquer thinner

Products of petroleum distillation:

Gasoline -- Naphtha -- Mineral Spirits -- Kerosene -- Mineral Oil – Wax (Paraffin)
(less oily, faster evaporating) *(more oily, slower evaporating)*

Sources

- Bob Flexner, Understanding Wood Finishing, American Woodworker, 2010
- Jeff Jewitt, Great Wood Finishes, Taunton Press, 2000