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## **Fundamentals of Water-Based Topcoats**

Taught by Bill Strey of General Finishes

This is an overview of all General Finishes water-based topcoats. We will discuss recommended uses for each product as well as proper application methods.

### **Class goals**

- Understand what each water-based GF topcoat is designed for
- Demonstrate application techniques and tips
- Discuss proper sanding procedures for water-based topcoats
- Answer attendee questions throughout the session

### **Retail topcoats – brushable or sprayable. Available in pints, quarts, gallons, 5-gallon pails**

- Sanding Sealer
  - Economical base clear coat for use under other water-based topcoats
  - Large particle size for fast build
  - Sands easily and creates more powder when sanding vs. other topcoats
  - Excellent adhesion
  - Use for added clarity under satin or flat finishes
- High Performance
  - Versatile and durable topcoat, great for a variety of high-use projects and over many different products (paints & stains)
- Flat Out Flat
  - Specifically designed as an alternative to waxing over Chalk Style Paint
  - Flattest sheen GF produces, about 5% sheen
  - Excellent chemical resistance, fair water resistance
- Enduro-Var
  - Modified oil urethane delivered in a water-based system
  - Ambers over time
  - Only for use over raw wood or wood stained with GF water-based stains
  - Very hard finish, moderate water resistance
- 450 Clear



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- Flexible exterior clear finish
- For use on exterior furniture, doors, fences, trellises
- Not for use on decks
- Will not keep color from fading!

### **Professional topcoats – spray only. Available in gallons and 5-gallon pails**

- Clear Poly
  - Acrylic/Urethane blend topcoat
  - Similar to High Performance, but with higher solids content
- White Poly & Black Poly
  - Tinted topcoats that blend the properties of topcoat and paint
  - White Poly is highly recommended product for true Snow White look
  - More transparent color than paint, so primer may be necessary for color build
- Pre-Cat Lacquer
  - Economical acrylic topcoat
  - Exceptional clarity
  - Designed for new wood applications (not over existing finishes)
  - Lower solids content compared to Clear Poly
- Conversion Varnish
  - Commercial-grade product
  - Catalyzed, two-part system
  - Most durable finish GF makes, perfect for high-wear tabletops and countertops
  - Usable on exterior surfaces

### **General Tips:**

- Film thickness
  - 1 mil = 1/1000<sup>th</sup> inch
  - 3-4 wet mils = 1 dry mil
  - We recommend at least 3 mils dry thickness for every project
- Dealing with grain raise
  - Get a smooth result by building layers and sanding smooth
- Dry time vs. cure time
  - Dry time for all GF water-based products is about 2 hours to recoat



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- Cure time for all single-component GF water-based products is 3-4 weeks
- Most of curing done in first week
- Cure time is 1 week for Conversion Varnish
- Sheen levels
  - Final coating determines sheen level
  - Lower sheens are naturally less scratch resistant and less clear
- Adhesion for water-based coatings
  - Mechanical bond vs. chemical bond
  - Going over unknown existing finishes
- Surface preparation for all water-based topcoats
  - Bare wood - sand to 180- or 220-grit, depending on the size of the wood pores
  - Existing finishes – clean with 50/50 denatured alcohol and water. Sand with 220 sanding pad
  - Recoating – sand with 220 sanding pad between coats
- Considerations for conditions
  - Extender – use to slow dry time of any water-based product when applying in hot or dry conditions. Allows product more time to flow and level.
  - Accelerator – use to speed up dry time of any water-based product when applying in cool or damp conditions
- Types of abrasives and differences
  - Sandpaper vs. sanding pads vs. synthetic steel wool (non-woven abrasives)
  - Friable = parts of abrasive grains break off to reveal new sharp edges
  - Garnet – natural mineral, not friable or durable, dulls quickly – good for finishes
  - Aluminum oxide – friable, aggressive abrasive – long-lasting and economical, but many different versions (including the sanding pads GF sells)
  - Silicon carbide – harder and sharper than aluminum oxide, but dulls more quickly, generally found in only finer grits, perfect for wet sanding (Tri-m-ite)
  - Ceramics – very durable, aggressive abrasive, generally only coarse-grit belts
- Maintaining water-based finishes
  - Clean with soap and water, touch of vinegar or hydrogen peroxide
  - Chemicals that degrade finishes – mustard, DEET, denatured alcohol