

Instructions General Finishes High Performance

Step 1: Preparation

All wood projects require preparation sanding. *If you skip this critical step, your finish may fail.*

Raw wood

See our video: [How To Prep Sand New Wood](#)

1. Sand with 120-grit sandpaper followed by 150- or 220-grit.
2. Remove dust.

New Stained Surface: Do not sand. Apply directly to stained surface.

Existing Finish

See our video: [How to Prepare Existing Finishes](#)

1. Scuff clean with a Scotch-Brite™ pad or maroon synthetic steel wool & 50:50 mix of denatured alcohol & water.
2. Dry 1-2 hours.
3. Sand lightly with 220-320-grit foam sanding sponge.
4. Remove Dust

Step 2: How to Apply General Finishes High Performance

CAUTION: Do NOT use *GF High Performance* or any other clear coat, over white or light paints such as *GF Milk Paint*, or *GF White Poly* as it may cause yellowing. Any clear coat can become reactive over wood substrates or existing finishes causing tannin, stain, or dye bleed-through. All of GF's White Paints, brushable or spray versions, do NOT require a topcoat.

General Finishes High Performance Water Based Topcoat Application Steps

1. Watch the High Performance Product Overview Video [Here](#) (2:07)
2. Stir topcoat to reincorporate solids that have settled to the bottom of the can before and throughout the application process.
3. Thin as desired with distilled water; start with 5%, increase up to 10% by volume.
4. Increase open time, if needed, with up to 5% [General Finishes Extender](#) if allowed by local regulations. GF Extender will improve flow and leveling and increase open time, which is helpful in dry climates. **California Residents:** Adding more than 2% of *GF Extender* will make the products non-compliant per SCAQMD Regulations. GF assumes no liability for the improper use of these products.
5. Apply 3 coats of High Performance. More coats will not improve durability.
 - **Hand application:** Apply a liberal amount of product using a synthetic bristle brush, foam brush, pad applicator, or roller such as Whizz or AllPro Velour brand. Avoid pressure and

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excessive back brushing. Brush along the wood grain using smooth, even strokes with light lap marks. Let lap marks dry - they WILL tighten down.

- **Spray application:** Before spraying, strain topcoat through a fine-mesh filter. Spray wet films at 3-5-mil thickness. HVLP: 1.1mm-1.3mm spray tip, medium air cap. Verify tip sizes with your equipment supplier. [See our general guide for spray tip sizes](#). Keep your gun at a 90° angle, 6-8" from the surface. On large, flat areas, use wet, even patterns 6-8" wide. For narrow surfaces, reduce the fan pattern to 2-3" wide to reduce overspray. Overlap each pass 25% to conceal lines. Wear a full filter respirator (NIOSH/MSHA-approved) and work in a ventilated space. [Read here for more information on spraying techniques](#).
 - **Face frames and drawers on cabinets:** High Performance can be successfully applied by hand to cabinet face frames or edges with a brush, pad, or small, cabinet-specific roller such as Whizz or AllPro Velour brand.
6. If a faster build is desired over raw wood, use [General Finishes Sanding Sealer](#) for the first coat, followed by 2 coats of High Performance Topcoat.
 7. Finish sand between coats with a fine-grade (220-320) foam sanding pad to improve smoothness and adhesion.
 8. Remove dust with a vacuum, compressed air, an oil-free tack cloth or a water-dampened rag.

Tips to prevent streaking during hand-application:

See our video: [How to Prevent Streaking with Water Based Topcoat](#)

- Use a semi-gloss or gloss sheen with little to no flattening agents. The more flattening agents, the more likely a topcoat will streak when applied.
- To avoid streaking with the flatter sheens, apply a liberal amount of product and avoid using pressure and back-brushing. Wipe along the wood grain using smooth, even strokes. For large surfaces, apply topcoat with a large applicator, such as a paint pad.
- Remove any streaks that occur by buffing with fine-grade (220-320) sanding pad or sanding well and re-coating.
- For the smoothest result, apply with a spray gun.

Mixing Sheens

You mix can High Performance Topcoat sheens to adjust your sheen. For example, you can mix High Performance Flat and High Performance Gloss to obtain a different sheen.

Warning: Do not use water-based products with Linseed Oils or Danish Oils.

Dry Time

Dry Time Between Coats

Dry 2+ hours between coats in ideal conditions: 70°F 21°C; 50% humidity. **Be sure to allow adequate dry time.** You can tell if a water-based finish is dry if it forms a powder when lightly sanded with a fine-grade (220-320) foam sanding pad or 400-grit sandpaper. If in doubt, wait longer. Rushing the dry time can cause "blush," which is clouding in the finish due to moisture trapped between the layers.

Increase dry time if:

- Humidity is over 80%

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- 3+ coats are applied
- Thick coats are applied
- Applying over an existing sealed finish
- Applying over products from other brands
- Layering General Finishes water- and oil-based products:
 - Water over oil: Let oil-based products dry 72+hr before applying water-based products
 - Oil over water: Let water-based products dry 24+hr before applying oil-based products
- To accelerate dry time in humid conditions, add [General Finishes Accelerator](#) and work in a space with good ventilation and air movement. If you decide to re-coat before the recommended time, test dryness.

Cure Time Before Use

Water-based finishes cure and harden *for* full use after 21 days in ideal conditions. Avoid placing heavy objects on surfaces that have not completely cured. Treat gently, and do not clean with commercial products during the curing period.

Yellowing & Clear Topcoat

As is true of most "water-white" topcoats, General Finishes water-based topcoats dry clear over non-reactive substrates, such as plastic or metal, except [General Finishes Enduro-Var](#), which ambers. When white paint sealed with a water-white topcoat is applied to something as unpredictable as wood, all bets are off and the reason for yellowing is often unknown. It can be caused by topcoat activating tannins in raw wood or aniline dyes, stains, or contaminants in a pre-existing finish. This is most evident when using BRIGHT WHITE paint and most prevalent in sculpted details of furniture where the topcoat can collect, intensifying color change to an unacceptable level.

There is no reliable way to predict whether yellowing will occur and to what degree. Every existing finish is different, and we rarely know the finishing provenance on an existing piece. Every tree is different, and every piece of wood is unique. Raw wood can bleed tannins immediately after the topcoat dries or months later with seasonal temperature changes. Oak, pine, mahogany, and douglas fir are particularly prone to bleed-through.

Summary

- Whites have a lower "hide" quality and are more transparent than most other colors. Nearly all bright whites require additional coats to achieve the desired color and minimize color variation. This can increase the cost of paint finishing. Always include a clause in your contracts addressing the need for additional coats to achieve coverage.
- All bright white paint will yellow slightly with time, with or without topcoat. You have probably tried to touch up white woodwork in your home after several years and noticed the new paint is brighter.
- The underlying finish or wood species can affect the final color of light paint.
- Details and inside corners are difficult to cover with any paint color, but it tends to be more noticeable with whites. This is a naturally occurring phenomenon in paint application and does not necessarily constitute a defect in the paint finish or your technique.

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- The more porous the paint, such as a chalk paint, the more likely that yellowing will occur. The topcoat is seeping through the spaces caused by the larger particles of filler that give Chalk Paints their texture.

Tips to Prevent Yellowing

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- If it is a low-use project, use a premium white paint that is self-sealing and does not require a topcoat. A clear topcoat is not required on [General Finishes Milk Paint](#) for increased durability, as it is a self-sealing, exterior-rated coating with high durability and chemical and water resistance. However, topcoats do provide a smooth surface that is easier to clean and boosts durability for high-use projects, such as tabletops and kitchen cabinets.
- Use a professional spray such as [General Finishes Enduro White Poly](#). It has "increased topcoat properties," is a standalone finish when 3 coats are applied and does not require sealing with a topcoat.
- We recommend using [General Finishes Stain Blocker](#), an engineered chemical barrier, to prevent persistent bleed-through for interior-use projects.
 - Stain Blocker does not adhere to melamine cabinet veneers.
 - Stain Blocker cannot be tinted.
- Always test your project's ENTIRE finishing schedule (from cleaning to topcoat) on an inside door or a more hidden area of the piece. This will not help if the yellowing occurs later, but at least you will know if there is an immediate problem.
- Avoid painting period furniture, such as a 1940s serpentine mahogany desk, with light colors. The pieces were often finished in stain that contained aniline dyes, which cast a pinkish bleed-through under light paint. Not every piece of furniture is suitable for upcycling with a light paint color. Pine, mahogany, and furniture of the 1940s and 50s are a red flag.
- Last, not all manufacturers' topcoats are compatible with other finishes and may react with a color change. Always follow best practices by not rushing and testing to your satisfaction first.

Knots

Knots in wood tend to bleed and are dense, making paint and stain adhesion a challenge. Stain Blocker may improve adhesion and prevent bleed-through for painting projects. Pine knots are especially difficult to cover with white or light paints. If you decide to paint over them, apply 3 coats of Stain Blocker first; however, we cannot guarantee adhesion or bleed-through blockage. You are better off using a dark paint on pine.

Cleanup of Water Based Products

Application tools and materials containing water-based products can be cleaned with soap and water immediately after use.

Product Spills

Spills may be able to be removed from fabric and carpet if cleaned immediately with soap and water.

Storage of Water Based Products

Please be mindful of the way water-based products are stored and how long they have been in storage. They are not a forever product.

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Life of Product

Water-based products do not last forever, even when unopened. General Finishes products are **best used within 1 year**. However, the life of the product may be extended several more years with proper care and storage (see Storage Tips below).

Water-based products **can last 3-5 years if** the can is unopened, in good condition and stored in correct temperatures.

Product that is 3 years old will not look like product that is 6 months to 1 year old. You will see more stratification or separation as the product ages. Always stir thoroughly before using.

Foul Smell

If your product has a foul smell, it is contaminated and no longer in useable condition.

Clumps & Settling

Gravity can cause some solids to settle on the bottom of the can and slight separation on the top. This is normal. If working with older product stir with a paint mixing attachment on a drill.

If the solids dissolve and clumps smooth out after mixing from the bottom, the product is in good condition for use.

Inability to reincorporate large, chunky lumps after stirring for several minutes is an indication that the product has frozen and can no longer be used.

Storage Tips

See video tutorial: [Tips on Storing Leftover Finishes](#)

Water-based finishes crystalize and form a skin due to evaporation when the air-tight seal on a can is broken at first use. The following best practices will increase the life of your product:

1. Pry open sealed lids with a paint can opener by hooking under the lid's rolled edge. The use of a screwdriver can disfigure the rim and lid, impairing a complete seal.
2. Keep lid closed while working. Pour what you will use into a bowl, paper cup, or plate, and close can lid as you work.
3. Clean the chime of the can thoroughly with a paper towel before closing to create a complete seal. Product falling into the chime can be minimized by using a pouring lid, such as Fitsall. Avoid wiping used brushes on the lid.
4. Pound the lid in place using a rubber mallet to avoid distorting the chime or lid. Dents in the lid from direct contact with a hammer can impair a complete seal. Alternatively, place a flat piece of wood over can lid and firmly pound shut.
5. Store in moderate temperatures. Avoid temperatures below 50°F/10°C or above 100°F/26°C. Keep from freezing. Frozen and heat-damaged product cannot be revitalized. Temperature-controlled spaces, such as a basement, are ideal for storage. Do not store product in an attic, garage, in direct sunlight, or next to something warm like a water heater or furnace.
6. Store can upside down to create a liquid seal, minimize evaporation and reduce the chance of crystallization. Decant remaining product from the can before stirring.

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7. Decant leftovers to a smaller container when the finish is almost used up. Alternative storage containers for water-based products are plastic FIFO bottles or glass bottles. Do not fill metal-lidded containers completely to prevent them from rusting.

The following water-based product mixtures can be stored:

1. Product thinned with up to 15% [General Finishes Extender](#) or [General Finishes Accelerator](#) can be stored, with the exception of thinned [General Finishes Water Based Wood Stain](#).
2. Mixtures involving colors & sheens within the same product line, such as:
 - High Performance Satin + High Performance Gloss
 - Snow White Milk Paint + Coastal Blue Milk Paint
 - Amber Dye Stain + Merlot Dye Stain

The following product mixtures should NOT be stored:

- Any water based product with thinned tap water; water often contains bacteria that will adversely affect stored paint.
- Topcoat + Stain or Paint
- Milk Paint + Chalk Style Paint
- Water Based Wood Stain + Dye Stain

Furniture Care and Maintenance

Cure First

You have just finished applying a fine furniture finish. Treat gently until the paint or topcoat have fully cured. Allow 21 days for a water-based finish to cure and 30 days for an oil-based finish to cure before cleaning.

Regular Cleaning and Maintenance

- Remove dust with a water-dampened cloth. Dust can build up over time and may scratch or dull finishes if not removed regularly.
- Remove fingerprints, cooking fumes and smoking residue with mild soap and water. These contaminants will not harm the finish, but they accumulate on surfaces and dull the original luster.
- As with all fine furniture finishes, avoid using furniture polish, cleaners or dusting sprays that contain silicone, alcohol, ammonia, and anything acidic. Exception: We have successfully cleaned with Clorox wipes for occasional cleanups.
- Clean up water, alcohol and food spills in a timely manner and use placemats & coasters to protect the finish.
- Future finishes or touch-ups may not adhere properly or perform as desired over a contaminated surface. Some contaminants, such as silicone, seep through finish into the wood and often cannot be removed.

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- Avoid excessive exposure to direct sunlight, high temperatures or high humidity. These can damage furniture and finishes.

Warnings and Warranties

High Performance Warnings and Warranties

Compatibility

Do not use water-based products with Linseed Oils or Danish Oils.

Limited Warranty

General Finishes products must be tested to your complete satisfaction before using. General Finishes will not be responsible for color satisfaction, misapplication, nor compatibility with other manufacturer's products. General Finishes will be responsible only for the cost of our products, and not for costs such as labor, damage, or project replacement.

Contamination and Compatibility

Our finishes are engineered as a system and are compatible with each other. General Finishes cannot guarantee an ideal refinish when applying our products on top of or combined with another company's products or over surfaces that have been in contact with waxes, polishes or sprays containing contaminants such as silicone. Test for adherence and aesthetics before beginning.

FIRST AID:

- Flat:
FIRST AID: Seek immediate medical attention if symptoms occur due to the following. EYE CONTACT: Remove any contact lenses. Flush eyes with water for 20+ minutes while lifting upper and lower eyelids. SKIN CONTACT: Wash skin immediately upon contact. Remove contaminated shoes and clothing; clean and wash before re-use. INHALATION: Move to fresh air and loosen clothing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. INGESTION: Call physician immediately. Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
- Satin, Semi-Gloss, Gloss:
FIRST AID: Seek immediate medical attention if symptoms occur due to the following. EYE CONTACT: Remove any contact lenses. Flush eyes with water for 20+ minutes while lifting upper and lower eyelids. SKIN CONTACT: Wash thoroughly after handling. INHALATION: Move to fresh air and loosen clothing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. INGESTION: Call physician immediately. Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Prop 65 WARNING: This product can expose you to Ethylene oxide, which is known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to chemicals including 1,4-Dioxane, Ethylbenzene, Dibromoacetonitrile, which are known to the State of

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California to cause cancer. For more information go to [California Proposition-65](#).

WARNING:

- Flat:
WARNING HARMFUL IF SWALLOWED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
- Satin, Semi-Gloss, Gloss:
WARNING HARMFUL IF SWALLOWED. MAY CAUSE EYE IRRITATION.

WARNING:

Keep out of reach of children. Use only with adequate ventilation. Do not swallow. Do not get on skin or clothing. Avoid contact with eyes. Avoid breathing vapor or mist. Keep container tightly closed when not in use. Wash thoroughly after handling.