



Waterlox Original Interior Tung Oil Finishing System

WHERE TO USE

Beautiful. Natural. Durable. That's a Waterlox Original Tung oil finished wood surface. A unique blend of Tung oil and resin, Waterlox showcases the natural beauty of wood, providing lasting, durable protection. This elegant, one-of-a-kind finish has been made by the Hawkins family since 1910, and is still made by hand according to the original family formula.

The Waterlox Original Interior Tung oil finishing system is specially formulated for interior wood surfaces, including:

- **Hardwood floors**
- **All interior woodwork, doors, walls, windowsills, beams, ceilings, etc.**
- **Countertops, bars and table tops**
- **Bathroom & kitchen vanities/cabinets**
- **Furniture & fine woodworking**
- **Various woodworking projects**
- **Exterior wood ceilings (not in direct UV/sunlight)**
- **NOT recommended for use outdoors in direct UV/sunlight¹**

The origin of our name, Waterlox, stands for "locks out water." Therefore, we think our Waterlox Original Tung oil finishes are the perfect solution for any and all wood finishing project(s). When you add to that your plans to finish a floor or a known water-related area like a bathroom, kitchen, counter top or table top, we think Waterlox should be the only finishing choice since no other clear finishes, surface finishes or raw oils available on the market today have our superior protection and water resistance properties. Waterlox Original Tung oil finishes are tough enough to stand up to foot traffic and household spills, are water resistant and non-toxic² and food-safe when dry. Waterlox Original Tung oil finishes have good heat resistance, can be used around stoves and are unaffected by boiling water and liquids.³

As with any finish, special care and attention should be used when applying the Waterlox Original Tung oil finishes. Waterlox delivers spectacular results, and to make sure you achieve just that, there are a series of guides and FAQs located on our website at waterlox.com that will take you step-by-step through the proper application of a Waterlox Original Tung oil finish. We also recommend that you watch the Waterlox product application video. Even though your project may not be a floor, the video will still be helpful.

PERFORMANCE HIGHLIGHTS

By definition, a varnish, with a few exceptions, contains resins as essential constituents. Further, varnishes dry by the evaporation of its volatile constituents, by the oxidation or chemical reaction of other constituents or partly by both. We view our Waterlox Original Tung oil finishes as 'phenolic modified Tung oil-based varnishes'. By design, our original formulas are low solids solutions (high solvent percentages), engineered to offer the most desirable combination of wood penetration and protective film build. The solids portion of our finishes is made up of 85% Tung oil and 15% resin, rosin and driers. While many make untrue product claims, Waterlox has never made any claims that we manufacture anything but a varnish. Our varnish is however a truly unique blend of Tung oil and resin that showcases the natural beauty of wood, providing lasting, durable protection.

Back in 1910, the Waterlox chemists experimented with many different formulations and settled on one that was believed to be a "best of all worlds" formulation and subsequently revolutionized the finishing industry.



Traditional finishes of that time were achieved mainly by hand-burnishing raw or modified linseed oil-based products (from the flaxseed and more available in the USA) into wood surfaces. Electricity in homes was not available yet, which is why they were applied by hand. In most cases, they would be topped off with a coat of wax. Therefore, wood finishes of the time were very labor intensive and very expensive to apply and maintain. Most people in that day and age couldn't afford such a high cost to finish and maintain a finished wood floor; therefore, they would end up leaving them unfinished. Rugs and/or carpet were a much cheaper alternative in those days; which is why unfinished beautiful wood floors are often uncovered during home renovations.

Waterlox's formulation was designed to eliminate the need for all the work and expense. It was designed to be applied with an applicator or brush and required no further effort other than dry and the appropriate number of subsequent coats of finish. In other words, no oil needed to be hand-burnished and no wax needed to be maintained.

Today, Waterlox continues to deliver spectacular results that give the user all the attributes of a natural oil finish with the durability of modern finishes. Further, 90% of the surface finishes of our Tung oil formulations are composed of renewable, natural resources.

Features	Benefits
Tung oil-based	Penetrates surface Easy to maintain Enhances beauty of wood
Flexible	Moves with the wood Does not chip or crack Tolerates wide temperature ranges
Water resistant ⁴	Excellent water resistance Great for use in water-related areas such as bathrooms and kitchens ⁵ Condensation on glassware will not leave rings
Protective	Protects against common household spills Heat and Cold
Easy to Maintain	Easier to maintain than surface finishes and/or oils

Unlike common surface finishes such as polyurethanes (solvent or water-based) that conceal the wood's grain and beauty under a layer of plastic, Waterlox Original Tung oil finishes offer a unique hand-made blend of Tung oil and resin that penetrates into the wood, yielding a rich, hand-rubbed look that's durable and easy to maintain. Further, other types of drying oil systems or varnishes cannot reach the performance standards of the Waterlox Original Tung oil system. Here's how others compare:

Raw oils or "Danish" oils.

Raw oils or "Danish" oils penetrate into the wood pores but do not really protect the wood. Finishes in this category are not difficult to apply, but they offer little or no protection to the wood substrate and can remain tacky like fly paper until dry. Because of this they require frequent and time-consuming reapplication, will water spot and are usually not recommended for working surfaces such as floors or counter tops, or for use in water-sensitive areas. While Waterlox Original Tung oil finishes contain a superior drying oil, namely Tung Oil, they are fully cooked varnishes, which dry quicker and form permanent films tough enough to walk on



and take daily abuse. Waterlox Original Tung oil finishes are also water and chemical resistant (alcohol and alkali).

Linseed oil.

Linseed oil is a drying oil pressed from the flax seed. While linseed oil will penetrate into the pores of the wood, it will not really protect the wood substrate and will remain tacky like fly paper until dry. Linseed oil molecules are also larger than Tung oil and will therefore have limited penetrating ability. Because of this it requires frequent and time-consuming reapplication, will water spot and is usually not recommended for working surfaces such as floors or counter tops or for use in water-related areas. Linseed oil also contains lineolic acid, which causes it to yellow over time. Waterlox provides deeper penetration to seal wood fibers beneath the surface because the molecules are smaller. Waterlox is water resistant and will not water spot like linseed oil, nor will it yellow like pure linseed or linseed oil modified coatings (e.g.: oil-modified urethanes).

Oil-modified urethane.

Urethane finishes form a plastic looking film on top of the wood surface and are harder and more brittle. Finishes in this category are more difficult to apply and are often recommended for professional use only. To properly use a urethane product, extreme care must be used when applying the product and sanding is required for adhesion purposes. Since this finish is a surface film, when the film is breached, it offers no protection at all. Touch-ups and maintenance are labor-intensive, may require a professional, and require sanding the entire surface to bare wood since partial renovations are not possible. Waterlox never requires sanding for adhesion and touch-ups can be done at any time without sanding. Waterlox forms a protective finish that won't chip, crack or wrinkle.

Traditional water based urethanes.

Like their oil-modified counterparts, traditional water based urethanes sit on top of the wood surface. Because they are mainly comprised of acrylic and urethane, they don't bring out the natural patina of the wood. Wear and scratches will also be more noticeable because they will scratch white. They are often difficult to apply and are often recommended for professional use only. Since this finish is a surface film, when the film is breached, it offers no protection at all. Touch ups are also difficult.

Oil/wax-based systems.

European oil/wax-based systems are labor-intensive to apply and maintain. Finishes in this category are difficult to apply and are recommended for professional use only because they are applied by buffing in and wiping off any excess product and are applied in thin coats. While they penetrate into the wood pores, they offer little or no protection of the wood substrate. Because of this, they require labor-intensive and frequent maintenance. Waterlox finishes can be applied by do-it-yourselfers and professionals alike. Our finishes are penetrating oil finishes and as such will penetrate into the wood pores and build up to a film that is water resistant, stands up to foot traffic and common household spills. Maintenance and recoating are easier and not required as often.

CHOOSING YOUR FINISH⁵

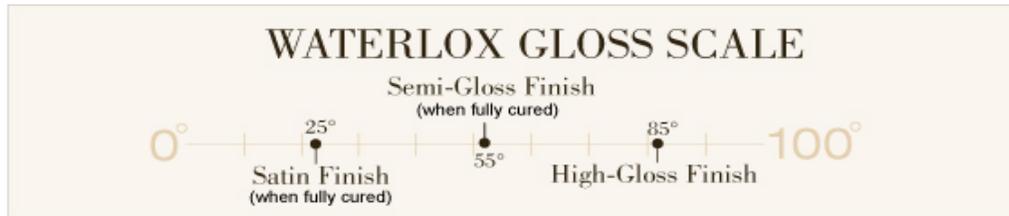
There is no right or wrong choice in terms of performance between each of the three interior finishing products. All Waterlox Original Tung oil finishes offer a durable protective finish that enhances the natural character of wood. Each:

- Penetrates, is water resistant and forms a protective yet elastic finish against foot traffic, common household spills, moisture and daily use.
- Non-toxic and food-safe when cured.²
- Easy to use and apply.



- Easier to maintain than other interior clear finishes or surface finishes.

Begin all projects with our Waterlox Original Sealer/Finish. If you would like a medium sheen, continue using the Waterlox Original Sealer/Finish for all coats required. If a lower sheen is desired, the last coat applied should be our Waterlox Original Satin Finish. If a higher gloss is desired the last coat applied should be our Waterlox Original High Gloss Finish.



TIP

Regardless of the sheen desired for your project, we strongly recommend that you begin your project with our Waterlox Original Sealer/Finish. This product allows you to seal the wood and acts as a base coat.

Waterlox Original Sealer/Finish

- Produces a medium sheen (semi-gloss) appearance (75° gloss level when finished; fades to a 50-55° gloss level in 3-6 months).
- Our oldest and truly “original” product, since 1910.
- Our most versatile product. Many customers use only this product for all coats of finish.

Waterlox Original Satin Finish

- Produces a satin appearance (20°-25° gloss level).
- Our lowest gloss level offered.
- Used as a finish coat only, over base coats of Waterlox Original Sealer/Finish.

Waterlox Original High Gloss Finish

- Produces a shiny appearance (85° gloss level).
- Our highest gloss level offered.
- Used as a finish coat only, over base coats of Waterlox Original Sealer/Finish.

COVERAGE/THINNING

One gallon covers 500 square feet per coat. One quart covers 125 square feet per coat. The number of coats depends upon the porosity of the wood being finished (check the wood hardness FAQ (Janka chart)). No thinning necessary.

DRY TIME

Our general rule of thumb is 24 hours between coats. Poor ventilation, high humidity or cool temperatures may increase dry times.

VENTILATION

Proper ventilation and adequate air circulation must be provided when using any wood finishing materials. Most oil-based varnishes dry upon exposure to oxygen, which is also known as “oxidative cure.” A lack of cross-ventilation (air exchange) provides less free oxygen, slowing the drying process. Cross-ventilation is the biggest factor affecting dry times. It is not recommended that any solvents or solvent-based materials be



used in a non-ventilated area. It is the oxygen molecules in the air that interact with the varnish, creating a chemical reaction and causing the film to dry. Therefore, the better the ventilation (during and after all coats) the quicker the film obtains its final hardness and other chemical resistance properties.

ASHRAE (The American Society of Heating, Refrigerating and Air Conditioning Engineers) states that the typical air exchange in a residence using only mechanical HVAC can be as low as 0.35 air exchanges/hour. In most cases 0.35 air exchanges/hour will not be adequate to dry Waterlox in 24 hours. We therefore strongly suggest achieving a gentle flow of air by cross-ventilation. This can be achieved by the use of a box fan running at low-speed in a window or door exhausting to the outside air as well as an open window in some other part of the room or house to achieve 3 - 4 air exchanges/hour. Not only will this aide the drying process by pulling in fresh air loaded with oxygen, but it will also exhaust the solvent odor.

Read the directions on the label completely before using, including information related to the use of a respirator while applying the finish. Lingering odor indicates inadequate ventilation, high humidity or both. If you cannot ventilate the area choose another product.

Be sure to use proper ventilation:

- While applying the coating,
- During the curing process (first 24 hours after each coating is applied), and
- Continue to ventilate the area for 7 days after the final coat is applied.

Examples of poor ventilation:

- Ceiling fans do not bring in fresh air from an outside source, even if windows are opened. They circulate stale air around the room. In fact, ceiling fans have a tendency to direct too much air downward on the surface of the freshly applied coating and can potentially “skin” over the fresh coat. This slows down the drying time because the solvent is trapped beneath the skin, causing a longer or improper cure.
- Heating and air conditioning do not provide enough ventilation. Opened windows with air being exchanged, replenishes the room with fresh oxygen and vents the evaporating solvents.
- Closed doors cut off airflow in a room even if a window fan is in place. If the window fan is working properly, solvent odors should be exhausted and will not enter connected rooms.
- Closets are typically the most difficult areas to ventilate – leave closet doors fully open.

TIP

Always read the Waterlox label instructions closely before using, including information related to the use of a respirator while applying the finish.

PREVIOUSLY FINISHED WOOD

Strip previously finished surfaces to bare wood. Then apply as described under “New Wood Application”.

NEW WOOD APPLICATION

Finishing guides specific to your wood project are available on our website at waterlox.com and include:

- Wood Floor Finishing Guide
- Kitchen, Bathroom and Countertop Finishing Guide
- Woodworking Finishing Guide



<i>For Best results....</i>	
<ul style="list-style-type: none"> • Apply with adequate cross-ventilation • Apply to bare wood • Apply when surface, product and ambient temperature is between 50 – 90° F (10-35° C) • Apply in the direction of the grain • Allow a minimum of 24 hrs between coats • If applying over a stain, allow to dry for 72 hours or as per the manufacturer's recommendations, whichever is longer 	<ul style="list-style-type: none"> • Do not apply when surface is hot to the touch. Avoid hot spots by covering windows. • Do not apply below the recommended spread rate of 500 square feet per gallon per coat • Do not apply in areas with no ventilation • Do not thin • Do not apply a new coat of finish over one that has not completely dried

CLEAN UP AND STORAGE

CLEAN UP

Clean tools immediately with mineral spirits or turpentine. Dispose of rags, applicators and waste as per label instructions. Read carefully other cautions on the product label(s).

STORAGE TIPS

Keep containers of Waterlox Original Tung oil finishes closed when not in use and keep in a cool, dry place. If stored properly, an unopened can of Waterlox Original Tung oil finishes have an almost indefinite shelf life. Cold temperatures will not negatively affect the product, but if Waterlox has been chilled or exposed to freezing temperatures, allow the product to stand for at least 6 hours in temperatures above 60° F before using. **DO NOT** artificially heat Waterlox products.

Partially filled containers may gel since Waterlox Original Tung oil finishes dry through oxidation. When a container is opened, it is exposed to oxygen and the remaining unused portion may begin to oxidize. This leads to skinning and eventually gelling of the product.

For the best results, pour the Waterlox you need to complete your job into another container and promptly reseal the original container (replace both the metal seal and screw top on the oblong can(s) and the lid on the round can(s)). **DO NOT** return any unused portion to the original can.

For proper storage, oxygen inside the Waterlox can must be displaced, by one or more of the following methods:

- Decant the product into a smaller airtight glass or metal container. **DO NOT** use plastic. If using a previously vacuum-sealed jar (e.g. pickles or baby food) use plastic wrap inside the lid to create an adequate seal.
- Use clean marbles or stones to raise the level of the finish and thereby displace the oxygen.
- With rectangular cans, squeeze the sides to push the liquid up and seal before the air returns into the can.
- "Float" the product with an inert gas, such as carbon dioxide or argon, or Bloxygen that is heavier than air.

Read carefully other cautions on the product label(s).

CURING

Even though the recommended dry time is 24 hours, Waterlox Original Tung oil finishes completely cure in 30 - 90 days.



There are two basic steps to the drying and curing of a Waterlox Original Tung oil finish:

1. The first step is the evaporation of the solvent "carrier" system. The evaporation of solvent usually occurs in the first 2 - 4 hours with proper cross-ventilation techniques.
2. The second step is the curing of the solids system, which is comprised of the Tung oil and resin. The solids system completes 95% - 98% of its cure cycle in 7 – 14 days with proper ventilation; full cure, film hardness and chemical resistance properties are achieved in 30 - 90 days with continued adequate ventilation.

As discussed above, the solvent portion of our formula is gone within 2-4 hours of application with proper cross-ventilation techniques. After that, any odor that remains is likely from the Tung oil itself. Tung oil is pressed from the nut of the Tung tree and is not petroleum based. Although some may notice a Tung oil odor, it is not toxic². To help determine the source of the odor, compare the odor you're noticing to any denomination of US paper currency. Tung oil-based inks are used to print US paper currency and the odor will resemble the odor of the solids portion of our finishes.

Care after the final coat is applied.

The first 7 days are the most critical after applying Waterlox Original Tung oil finishes. Please adhere to the following practices:

- After the last coat is applied, we advise staying off the surface for at least 24 hours. After this time, (if you're finishing a floor) it may be used for sock traffic only. No shoes or bare feet (oils from the skin may dull the surface).
- During the first 7 days keep room/ambient temperature above 70° F if possible. Continue to cross-ventilate the room to help replenish the required oxygen needed to cure the finish.
- Avoid common household spills in on newly finished surfaces for the first 7 days (cleaning spills with cleaners may damage or dull the finish as the film has not obtained its full chemical resistance properties).
- For floors, red rosin paper or non-abrasive throw rugs can be used in high traffic areas after 48 hours but should be removed each night, as the finish needs direct oxygen exposure to cure.
- After 7 days, (depending on drying conditions) replace furniture and throw rugs. Be sure to use felt pads on the bottom of all furniture to help prevent scratching of the finish. Some woods, such as American cherry and pine, oxidize on their own and will naturally darken during the first month. To achieve a consistent color across the entire floor, you may not want to place area rugs on the floor during this period. We recommend that you consult the wood manufacturer.
- Since the final cure of the finish occurs after 30 - 90 days, we recommend using caution for this period of time.

CLEANING AND CARE

After the Waterlox Original Tung oil finish has dried and cured for at least 7 days, cleaning may be performed. For wood working projects, we recommend using a microfiber duster on the surface as needed. For floors, we recommend using a broom, damp mop or microfiber mop on the surface as needed.

When a heavier cleaning is required for larger projects we suggest any of the following methods:

- Waterlox Original Cleaner Concentrate (following the directions on the label). We do NOT recommend the use of other wood coating manufacturer's cleaners as these have been proven to damage all types of wood finishes including Waterlox Original Tung oil finishes; or
- A solution with a maximum mixture of 1 - 2 oz. of white vinegar to 2 gallons of warm water; or
- Non-abrasive diluted household cleaner (stay away from ammonia and/or bleach products); or
- Murphy's Oil Soap® can be used, but will tend to reduce the gloss by leaving a film on the surface.⁶



Avoid ammonia-based and bleach-based cleaning products like Lysol®, Fantastik®, 409®, Windex® (ammonia and bleach-based products will soften the oil finish if used on a daily basis), and products containing wax or acrylics, and try to prevent water from pooling or standing on the surface for long periods of time.

We believe wax creates time-consuming maintenance issues, scuffs easily, leaves water spots and attracts dirt. Wax also makes it difficult to recoat your wood surface with Waterlox when necessary. Even though waxes are compatible with Waterlox finishes, we don't recommend using them for the aforementioned reasons.

TIPS

- After cleaning any surface finished with Waterlox Original Tung oil finishes, rinse with clear water.
- Avoid puddling water for long periods of time; wipe up spills immediately.
- For bathrooms, **do not** let soap sit directly on the finish; wipe up excess soap immediately.

RE-COAT AND MAINTENANCE

Another benefit of Waterlox Original Tung oil finishes is that they are tough enough to protect against foot traffic, moisture, common household spills and are easier to maintain than other type of surface finishes or raw oils. Our motto at Waterlox is: "Not everything is fixable; but at least with Waterlox you have a chance". As your surface ages, complete the following to freshen it up:

Scratches and Scuffs. Waterlox Original Tung oil finishes are penetrating oil finishes, which penetrate into the wood pores and build up to a film. One of their benefits to being used on working surfaces is that they are elastic and forgiving. When applied according to our recommendations, your surfaces will wear and scratch with normal every day use, but because the finish is part of the wood, you may not be able to see them as much as you would in a surface finish that will scratch white. To fix scratches and/or high wear areas in your floor, you have two choices:

1. You can do nothing at this time. One of the phenomenons of Waterlox Original Tung oil finishes is that sometimes scratches or imperfections have a way of working their way out on their own through time.
2. You can apply more of the finish you used in your last coat to the surface by hand wiping/feathering the coat with a lint-free/microfiber cloth and letting it dry for 24 hours.

Deep Gouges. Use a fine paintbrush or Q-Tip® to "fill" in the deep scratches by building them up.

Keep in mind that the gloss level of Waterlox Original Tung oil finishes softens over time; therefore, any repair may be shinier than the rest of the surface when initially completed. After the repair has been allowed to cure it will become less noticeable.

Black Heel Marks. Black heel marks are what's know as a transfer of material and the material has actually been transferred to the coating. To repair, remove the mark with a rag dampened with mineral spirits.

PRODUCT INFORMATION HOTLINE

To answer any wood finish questions or for more information visit our website at www.waterlox.com or call 800.321.0377, Monday – Friday, 9 am – 4 pm EST (excluding holidays).

CAUTIONS



- For MSDS information, visit the technical download page within the product section of our website at waterlox.com.
- DANGER! CONTAINS ORGANIC SOLVENTS. COMBUSTIBLE LIQUID AND VAPOR. HARMFUL OR FATAL IF SWALLOWED. USE WITH ADEQUATE VENTILATION. KEEP OUT OF REACH OF CHILDREN.

FOOTNOTES

¹For projects in direct Ultraviolet /sunlight use our Waterlox Original Marine Finishing system.

²Tung oil is non-toxic and food-safe, although, Tung oil is pressed from the nut of the Tung tree, which would therefore be considered tree nut oil. If you or someone who will be living with the finish has a tree nut allergy, consider whether or not this is a factor in finishing your wood project.

³Waterlox has good heat resistance; however, avoid placing hot pots or pans directly on the finish. Always use a potholder, trivet or some other type of insulating material under hot utensils and pots and pans.

⁴Waterlox Original Tung oil finishes are water resistant when applied at the proper spread rate and number of coats.

⁵We are asked quite often if our Waterlox Original Marine finishing system is recommended for surfaces near water – like a bathroom or kitchen. The simple answer is “no”, our interior Tung oil finishing line will give you the water resistance needed for these type of applications. It is true that our Waterlox Original Marine finishing products are water resistant; however, they are primarily recommended for use outdoors in direct UV as they are formulated as a traditional spar varnish finish system.

⁶Residue of any type including Murphy's Oil Soap® should be removed by a mixture of TSP (trisodium phosphate) and water, followed by a clear water rinse before re-coating.