

Hard-Wax Oil Finishes

The best of them offer foolproof application and beautiful results

BY ADAM GODET

“Hard-wax oils are easier to apply than any other finish I’ve used, with no sanding needed between coats, no danger of streaks or drips, and no buffing required afterward. They are easy to repair and provide enhanced protection against water damage and stains.”

The further along you are on a project, the more painful mistakes become. That’s partly why so many woodworkers dread finishing. With traditional film finishes like polyurethane, shellac, and lacquer, problems like drips, runs, streaks, haze, brush marks, or fisheye might force you to sand away some or all of the finish and start again. On the other end of the spectrum are traditional oil finishes, which greatly reduce the risks but don’t provide the same durability and depth of sheen.

Enter hard-wax oils. Borrowed from the flooring industry, these finishes have made major inroads into fine woodworking, thanks to a unique combination of attributes. Products in this category promise all of the benefits of an oil finish—foolproof wipe-on/wipe-off application, a beautiful glow, and easy repair—while promising better results, no sanding between coats, and improved durability and water resistance. Many also highlight “natural” ingredients, citing improved safety and low environmental impact.

With the category growing so rapidly, there’s a fair amount of confusion surrounding these finishes. Of the products calling themselves “hard-wax oils,” some consist of a single component and call for two coats, while others have two parts that must be mixed together but promise top-notch results with just one coat. And some don’t call themselves hard-wax oils at all, but have similar ingredients and attributes.



12 FINISHES PUT TO THE TEST

Many of these finishes originated in the flooring industry, with instructions that recommend sanding up to 220-grit at most. Based on his own past experience, Godet sanded one set of samples to a higher grit, significantly improving the look and feel of the final surface.





Photos, except where noted: Asa Christiana; product photos: Adam Godet

EASY APPLICATION

This relatively new class of finishes promises foolproof application and a rich look after just one or two coats. Most delivered on those promises.

Sand to a fine grit. Manufacturers' recommendations vary here, but our tests showed that sanding to finer grits had a significant effect on look and feel.



120 GRIT

1,000 GRIT



The finer the sandpaper, the higher the sheen. The board on the left was sanded to 120 grit, as recommended by the manufacturer. The result is a matte look, without much depth. The board on the right was sanded to 1,000 grit, which greatly improved the depth, sheen, and feel of the finished surface.

Apply with brush, pad, or rag. These finishes can be applied effectively with a wide variety of tools, but the author prefers synthetic pads (far right). They apply an even coat of finish, and have a mild buffing effect as you use them.



Wipe off the excess. Clean cotton rags work great here, though Odie's oil recommends terrycloth.



Adding to the confusion, manufacturers' instructions vary widely for these finishes, with many still reflecting a focus on flooring use. For example, more than one instructs users to prep surfaces only up to 120 grit. This has led to an explosion of YouTube videos with varying advice for best results on furniture and cabinetry.

To see if these finishes deliver on their promises, how they stack up against each other, and how to best apply them, *Fine Woodworking* signed me up to give the category a comprehensive test. I've used a number of these products in my work as a professional furniture maker, so I also welcomed the chance to challenge my own understanding and practice.

Which finishes fit the category?

Due to the proprietary nature of some ingredients, it's tough to tell exactly what these finishes contain. From what I was able to gather from labeling, websites, and company reps, however, most



One more coat and done. Only one finish, Tried & True, recommends sanding or buffing between coats (far left), in this case, a quick rub with 0000 steel wool. We tried a third coat on all of these finishes (near left), but it did not have a significant effect on the look or feel.

“hard-wax oils” contain some combination of plant-based oils (typically tung and/or linseed oil but also sunflower, safflower, soybean, thistle, and others) and one or more waxes (carnauba, candelilla, and beeswax among them).

The concept is that the oil penetrates and beautifies the wood, and the wax adds more depth and protection—without peeling, flaking, or cracking over time as a film finish might.

However, some products in the category include hardeners and other chemicals, meant to add durability and protection and decrease drying time, with corresponding health and safety implications. See “The health equation” on p. 39 for more on this.

To be sure we were including the right products in this test, beyond those that explicitly call themselves “hard-wax oils,” I read ingredients labels closely. When in doubt, I spoke to manufacturers to be sure they agreed to have their products included in this category. Twelve finishes made the cut.

The one-part products are Briwax Hard Wax Oil, Bumblechutes Bee’Nooba Wax, Fiddes Hard Wax Oil, Odie’s Oil, Interbuild Hardwax Oil, Osmo Polyx-Oil, and Tried & True Original Wood Finish. The two-part products are General Finishes Hard Wax Oil, Natura Onecoat Wood Oil 2K, Osmo 2K Wood Oil, Rubio Monocoat, and Rustic Lumber Furniture Oil.

While several of these products offer colored versions to help you change the tone of the wood, we went with the clear, natural versions for our tests. These work well for most species and applications. When sheen was specified, we went with satin.

Finally, as a control of sorts, I applied a few coats of Minwax Wipe-On Polyurethane to a sample of each of the woods used in the test. It’s another oil-based finish that can be wiped on easily, and looks good after two or three coats. However, like a number of popular wiping varnishes and oil-varnish mixes, it contains a resin that forms a protective film.

We tested manufacturers’ instructions

Because manufacturers’ instructions vary widely, and my own experience with these finishes generally conflicts with their advice, I tested every finish in two ways: I followed manufacturers’



Don’t stop at one coat. The author found that applying a second coat (right) improved the depth and sheen of the finish. This held true for the products marketed as one-coat finishes as well.

recommendations on my main set of samples, and took a different approach on another set.

For the main set of samples I used ash, walnut, and curly maple, which allowed me to compare performance on both open- and closed-pore woods, as well as one figured wood and one very light-colored wood. I cut the samples of each species from a single board (or, in the case of ash, from two single boards glued side by side) to avoid significant variations in color or grain.

I followed manufacturers’ directions to the letter on these samples, from surface prep to application tools and techniques to the number of coats recommended.

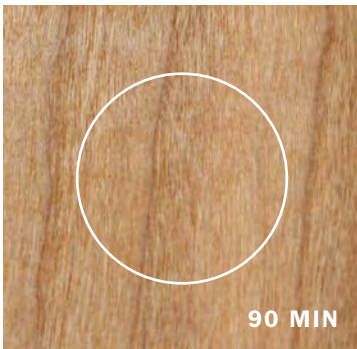
PROTECTION WAS SURPRISINGLY GOOD

As with any oil finish, you probably don't want to use a hard-wax oil on a high-traffic surface. But they provide plenty of protection if water and food substances are wiped away within an hour or two.

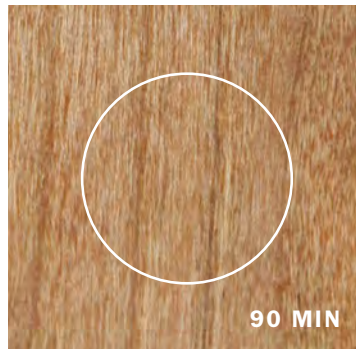
Tough test. Godet dripped water onto three areas on each sample surface, placing a steel nut in each puddle. He removed the water and steel after 90 minutes, 3 hours, and 12 hours, respectively, to check for haziness and staining.



OSMO POLYX-OIL



ODIE'S



Results varied. Like most of the products, Osmo Polyx-Oil (left) was fine after 90 minutes, but showed some issues after that. Bear in mind that the steel nut kept the puddle from evaporating as quickly as it might otherwise have. Odie's oil (right) was a standout, showing only the slightest haze and no staining after 12 hours.

If the directions didn't specify a sanding grit or a specific number of coats, I went with the directions given most commonly, stopping at 220-grit and applying the finish twice.

When a specific tool for applying and/or wiping off a product was not indicated, I went with my favorites for oil finishes: white, non-woven, nylon pads, which apply thin, even coats. Norton Bear-Tex is a common brand. These pads are roughly equivalent to 0000 steel wool, so they have a mild buffing effect as they apply finish. To wipe off the excess, I used cotton rags.

We also tested an enhanced approach

For a second set of samples, I used cherry and followed a more universal approach to preparation and application—one based on my own sense of best practices for hard-wax oils and other oil finishes, which I covered in *FWW* #269.

Since penetrating finishes don't form a film, adding extra polish to the bare wood has a significant effect on the finished surface, helping it to reflect light and giving it a more satiny feel. My preferred method is to sand up to 320 or 400 grit (360 in this case) before jumping up to 1,000. I've tried intermediate grits between the 300s and 1,000 but haven't found them to be necessary. For large surfaces, I used a random-orbit sander; for narrower ones, sandpaper backed by a block. I did not sand the surfaces between coats. To apply the finishes I used the white, nylon pads mentioned above, wiping off the excess with cotton rags.

The enhanced approach worked best—For every product but one, the enhanced surface prep improved the look and feel of the surface. The one exception was Tried & True, where the manufacturer suggests buffing with 0000 steel wool between coats. I followed this advice on the standard samples, and those looked



Repairs are easy. Like all oil finishes, hard-wax oils make damage easy to repair. To hide a scratch, sand it up to the same grit as the surrounding surface, and apply more finish.

and felt slightly better than my “enhanced” samples (which had no buffing between coats).

I also tried additional coats—To see if the number of coats makes a difference, I divided these same sample boards into halves. For the two-part finishes that promise top performance with one coat, I applied a single coat to one half and two to the other. For the one-part finishes, which generally recommend two coats, I applied two and three coats to the respective halves.

The results were revelatory. Almost all of the products—including the finishes that promise one-coat coverage—looked and felt their best after two coats. The one minor exception was Tried & True: great after two coats, but subtly improved by a third.

Most hard-wax oils are very easy to use

As a category these finishes live up to their user-friendly promise. Whether you follow manufacturers’ instructions or my own suggested approach, you can simply wipe them on and off, with no sanding between coats and no buffing afterward.

Advice for wiping off—These finishes are meant to penetrate, not build, so they don’t work well if you leave extra finish on the

surface. Be sure to read manufacturers’ instructions on how long to wait before wiping off the excess, as some can get sticky and streaky with too much elapsed time.

Cotton rags work well for this step, with pressure similar to hand-sanding. The two exceptions are Odie’s and Bumblechutes, which require firmer pressure, similar to buffing a paste wax. This might be why Odie’s recommends terry-cloth rags.

Fiddes is an outlier—Unlike the other products tested, Fiddes Hard Wax Oil applies, looks, and feels like a thin film-forming finish—very similar to our control: Minwax Wipe-On Poly. Tellingly, neither product directs users to wipe off the excess, and both allow airborne dust to settle into this thicker, wetter coat, requiring light sanding or buffing afterward to remove the toothy feel.

Fiddes also called for brushing, making it easy to leave streaks on the surface and drips at the edges. Even on my enhanced samples, where I applied the finish with a pad, there were streaks.

Two-part products not worth the trouble—The two-part finishes—Rubio Monocoat, Osmo 2K, Natura One Coat, Rustic Lumber Furniture Oil, and General Finishes Hardwax Oil—promise one-coat protection. However, the look and feel of each of these

The health equation

Quite a few woodworkers have been drawn to hard-wax oils for their lower purported VOCs. So I looked at the cans and the material safety data sheets to determine whether users should wear gloves and/or a respirator while applying the finish. I also looked for overt health warnings.

Based on this examination, some products are clearly less concerning than others. Odie’s, Tried and True Original, Interbuild, and Bumblechutes do not come with any significant health

precautions, including the need for gloves or respirators.

On the other end of the spectrum are products with multiple health warnings, including General Finishes and Briwax. Like Minwax Wipe-On Poly, these products require gloves and a well ventilated area and/or respirator.

The rest of the products offer general notices to avoid skin contact and inhalation. So I would wear gloves when using these, and add a respirator if the area is not well-ventilated. —A.G

Hard-wax oils, head to head

In almost all cases, our enhanced surface prep delivered samples that looked, felt, and performed better than those prepared according to manufacturers' instructions. The same went for two coats over just one. When that wasn't the case, we based our ratings on the manufacturer's recommended approach. See the main article for more details.



Color varies on lighter woods. Some hard-wax oils impart a strong amber cast to blond woods like maple and ash; others don't. The curly maple sample (top) was finished with Tried & True Original Wood Finish; the one at bottom with Rustic Lumber Furniture Oil.



Two-part products require careful planning. You'll need to mix up a separate batch of finish for each application, so make just what you need for the project at hand because any extra will go to waste.

NAME	PRICE PER PINT*	ONE OR TWO PARTS	EASE OF USE	WAITING TIME BETWEEN COATS
Briwax	\$24	1	Good	4 to 6 hours
Bumblechutes	\$75	1	Very good	12 hours
Fiddes	\$57	1	Fair	4 to 6 hours
Interbuild	\$43	1	Good	Not specified
General Finishes	\$64	2	Very good	24 hours
Natura	\$47	2	Good	Not specified**
Odie's	\$76	1	Very good	24 hours
Osmo 2K	\$80	2	Good	Not specified**
Osmo Polyx-Oil	\$33	1	Excellent	8 to 10 hours
Rubio	\$80	2	Good	Not specified**
Rustic Lumber	\$29	2	Very good	24 hours
Tried & True	\$35	1	Very good	24 hours

*Not all available in pint size; price per pint estimated for sake of comparison.

** Marketed as one-coat finishes
*** Higher ratings reflect less yellowing.

was significantly improved with the addition of a second coat, just like the one-part finishes were.

Therefore, it's hard to justify the extra trouble required by the two-part products. Aside from the hassle of measuring and mixing them, there's also significant waste generated. That's because the combined mixture has a short shelf life—roughly four to six hours—which means you can't re-

use the excess for a second coat (or future use). And there's always a fair amount left over, because you have to make sure you've mixed enough for each coat.

Look and feel

In terms of sheen, or the quality of reflected light on the finished surface, as well as clarity and depth, all of my enhanced samples met the standard for fine furniture.

CURE TIME	SHEEN	APPEARANCE	NON-YELLOWING***	WATER/STAIN RESISTANCE†
Not specified	Excellent	Very good	Very good	Good
2 to 3 days	Very good	Very good	Very good	Excellent
7 days	Excellent	Very good	Very good	Excellent
3 days	Excellent	Very good	Fair	Very good
Not specified	Excellent	Excellent	Fair	Very good
7 days	Excellent	Very good	Fair	Excellent
3 to 5 days	Excellent	Very good	Very good	Excellent
24 hours	Very good	Very good	Fair	Excellent
10 to 14 days	Excellent	Excellent	Very good	Good
5 days	Excellent	Very good	Fair	Excellent
7 days	Excellent	Very good	Fair	Good
5 days	Excellent	Excellent	Very good	Good

†Comparisons made to other products in test; no hard-wax oils will protect as well as a thick film finish.

At the tip top, there was a tie between Tried & True and Osmo Polyx-Oil. While the best Tried & True samples—with the manufacturer’s suggested steel-wool scuffing between coats—had a slightly warmer, softer glow, with unmatched clarity, Osmo was a very close second, with no polishing required.

“Popping the curl”—Depth is also related to a finish’s ability to highlight figure,

or “pop the curl” in the case of our curly maple boards. All of the finishes did a good job here, but some stood out.

Interbuild, Natura, Osmo 2K, Rubio, and Rustic added a distinctly amber color to the maple, which helped to accentuate the figure. Tried & True, Osmo Polyx-Oil, and General Finishes also accentuated the curl without adding as much yellow to the wood.

Some are too yellow for light woods—

To get a clearer picture of the yellowing effect, particularly on the whitest woods, I referred to the ash samples. On those General Finishes, Interbuild, Natura, Osmo 2K, Rubio, and Rustic imparted more yellow than I would like to see.

Surprising level of protection—Based on their performance promises for flooring, I expected hard-wax oils to deliver better durability and protection than basic oil finishes. And they delivered on that promise, with two coats of each product protecting at least as well as two coats of our control—Minwax Wipe-On Polyurethane, which builds a thin film.

The standouts were Fiddes and Odie’s Oil. Fiddes was not a surprise, given its very likely inclusion of varnish resin, but Odie’s was, leaving only the slightest haze after 12 hours of my water test (p. 38).

The bottom line

If you need a bombproof finish for a tabletop, or a perfectly smooth surface with a deep sheen, reach for a finish that builds a film. For everything else, it’s hard to beat hard-wax oils. In fact, the way these finishes beautify the wood while still allowing you to see and feel the grain gives pieces a distinctly handmade quality.

The best hard-wax oils are easier to apply than any other finish I’ve used, with no sanding needed between coats, no danger of streaks or drips, and no buffing required afterward. They are as easy to repair as any oil finish, while providing enhanced protection against water damage and stains.

If I had to choose one of these hard-wax oils to keep on hand, it would be Osmo Polyx-Oil. It’s relatively affordable and very easy to apply. For the ultimate warmth, glow, and clarity, I would go with Tried & True Original. To get there, however, you’ll need to buff it between coats. For the highest level of protection, consider Odie’s Oil or Bumblechutes Bee’Nooba Wax. All four of these finishes are one-part products, and all are the least likely to add a yellow cast to white woods. Osmo also makes a UV-resistant version of its product for outdoor items. □

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