

American  
Woodworker

# No-Fuss Wood Finishing



TIPS, TECHNIQUES & SECRETS FROM THE PROS *for Expert Results*



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*for Expert Results*

Edited by Randy Johnson

  
FOX CHAPEL  
PUBLISHING

Published by Fox Chapel Publishing Company, Inc., 1970 Broad St., East Petersburg, PA 17520,  
717-560-4703, [www.FoxChapelPublishing.com](http://www.FoxChapelPublishing.com)

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American Woodworker, ISSN 1074-9152, USPS 738-710, is published bimonthly by Woodworking Media, LLC, 90 Sherman St., Cambridge, MA 02140, [www.AmericanWoodworker.com](http://www.AmericanWoodworker.com).

Library of Congress Control Number:  
ISBN-13: 978-1-56523-747-6  
ISBN-10: 1-56523-747-1

Library of Congress Cataloging-in-Publication Data

No-fuss wood finishing. -- First [edition].

pages cm

Includes index.

Summary: "Amateur woodworkers can achieve professional-quality finishes on their projects with simple materials that are brushed or wiped onto the wood. There's no need to shell out for expensive professional spray equipment nor to invest the hours required to use it. The secrets in this book include focusing on brushable polyurethane varnish, brushable shellac, and wipe-on glaze coats. Readers will learn how to use and clean a fine finishing brush, when to brush and when to wipe the finish on, and how to get a flawless finish without the tedious labor of rubbing out. Includes detailed instructions for matching colors with simple stains, how to make nondescript woods such as poplar look great, and how to apply a glaze coat for professional highlights on carvings, moldings and other details. Includes a special section on reviving damaged finishes, erasing water-damage, and when all else fails, how to strip off the old finish and start over."  
"-- Provided by publisher.

ISBN 978-1-56523-747-6 (pbk.)

1. Wood finishing. I. American woodworker.

TT325.N64 2012

745.51--dc23

2012018158

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Printed in China  
First printing

Because working with wood and other materials inherently includes the risk of injury and damage, this book cannot guarantee that creating the projects in this book is safe for everyone. For this reason, this book is sold without warranties or guarantees of any kind, expressed or implied, and the publisher and the author disclaim any liability for any injuries, losses, or damages caused in any way by the content of this book or the reader's use of the tools needed to complete the projects presented here. The publisher and the author urge all readers to thoroughly review each project and to understand the use of all tools before beginning any project.

**On the cover:** A thick gel stain acts as a glaze to give this molding depth and definition. More on page 72.

**Frontispiece:** When you're building furniture, it's simplest to pre-finish the parts before assembly. Page 41.

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# What You Can Learn



**Sanding prepares the surface.** Surface preparation is the key to a fine finish, and sanding is the key to surface preparation. It doesn't have to be fierce work. See pages 23 through 27.



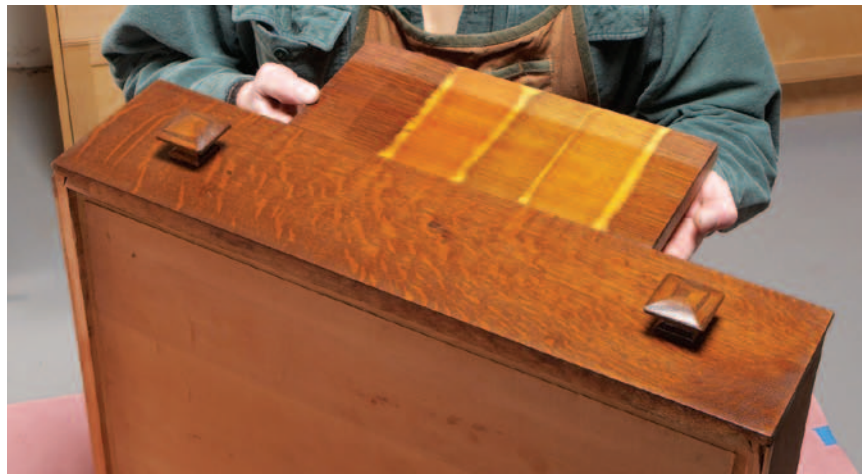
**Varnish for durability.** Varnish is the most versatile and durable finish that you can apply without a lot of fuss. Varnish finish can take any sheen from satin to high gloss, it can be brushed on or wiped on with a rag. Lots more detailed information to help you choose the most appropriate type of varnish for your project, and how to get the best results, pages 41 through 71.



**Shellac for beauty.** Shellac is the traditional finish for fine furniture, and there are many ways to use shellac in the finishing process. See pages 28 through 40 and pages 111 through 114, as well as tips scattered throughout the book.



**Coloring the wood.** You can learn how to match colors and finishes using step boards (pages 80 through 91), how to put a fine finish on ordinary poplar, and how to finish such difficult woods as cherry and golden oak (pages 91 through 105). Then add richness and depth to any finish using gel stains as glazes (page 106).



**Cleaning the brush.** You paid a lot for that fine finishing brush, it really works great, but now it's time to clean it and store it away safely, ready for next time you need it, page 18.



**Repairing damaged finishes.** Before you can repair a damaged finish, you need to determine whether the trouble is in the finish, or beneath it in the wood itself (page 119). You'll find scores of useful techniques for repairing the damage with minimal intervention (page 120 through 133), but when all else fails, you might have to strip off the old finish and start anew (page 134).





# Finishing Techniques

**F**inishing wood may seem hopelessly complicated, mysterious, and expensive, but it's not. You can get perfect results in your home workshop, using brushes, wiping rags, and readily available materials. For durability and versatility, it's hard to beat polyurethane varnish, in either an oil- or water-based formulation. And for the finest furniture, there's no finish more beautiful than a French polish, that is, many coats of shellac rubbed out to the precise sheen you want.

Like most woodworking processes, successful finishing get easier when you put attention on learning good techniques and working habits. This section gives you the foundation of techniques and information that you need.

You've got to finish all of it—every surface. These simple levitators lift the piece so you can get at it and see what you are doing, page 17.







by KEVIN SOUTHWICK

# Pro's Guide to 30 Finishing Supplies

## 30 MUST-HAVE TOOLS FOR FINISHING ALL TYPES OF WOODWORKING PROJECTS

Collecting woodworking tools is undeniably fun. As a professional finisher, I meet a lot of woodworkers on the job and in the classes that I teach. So I know that spending hundreds of dollars on a new router or a fine hand plane is thought of as a reasonable expense for an essential tool. On the other hand, having to buy sandpaper or a new can of finish is usually likened to throwing money away.

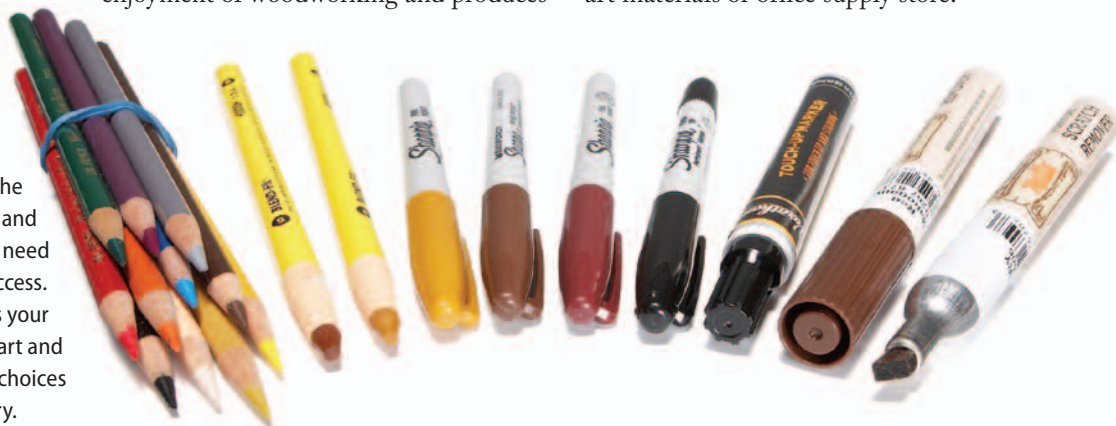
Why is that? I think of finishing supplies as good investments—essential woodworking tools on a par with those that cut and shape wood. Good finishing tools make it easier to apply good finishes, which both improves my enjoyment of woodworking and produces

a superior result. In my opinion, a well-equipped woodworking shop includes a well-equipped finishing cabinet. Here's a collection of finishing tools and supplies that I think are worthy of your hard-earned cash.

### Touch-Up Tools

Knowing how to hide mistakes makes you a better woodworker. Touch-up tools allow you to disguise defects such as glue spots, sanded through edges, light-colored scratches, and fill-ins that don't quite match. **Wood touch-up pens** are handy to have, as are **colored pencils** and wood-tone **colored markers** from an art materials or office supply store.

Here are all of the tools, supplies, and materials you'll need for finishing success. This story takes your finishing kit apart and discusses your choices in each category.





## Clean Brushes with Lacquer Thinner

The standard procedure for cleaning a varnish brush is to rinse it a couple of times in mineral spirits, and then wash repeatedly in soap and water. I take an extra step: After the mineral spirits, I rinse my brush in lacquer thinner. Commercial brush cleaner works well, too.

Lacquer thinner or brush cleaner quickly removes most of the oily mineral spirits. This step makes washing with soap and water easier and quicker. You'll usually need only one or two soap-and-water washings to achieve a good lather, which indicates the bristles are clean.

Remember to use adequate ventilation when you work with lacquer thinner or brush cleaner.

## Keep Everything Clean

Reduce dust nibs by keeping your project and work area clean. If you are finishing in the same area where you've been sanding, allow time for the dust to settle and then vacuum the floor. Vacuum your project using the brush attachment. Use a lint-free cloth to remove any dust that remains in the wood's pores.

Just before you begin brushing or spraying, wipe your hand over horizontal surfaces to be sure they are clean. You will feel dust you don't see. Your hand will also pick up small bits of dust that may have settled after you did the major cleaning.



## Bury Raised Grain

Water-based stain and finish raise wood fibers, making the wood's surface feel rough. Many folks suggest prewetting bare wood with water and sanding the raised grain after the wood dries. This method is fairly effective, but there's an easier way.

Skip the prewetting and bury the raised grain in the finish. Burying simply means encasing the raised grain in a layer of finish. Apply the first coat of water-based finish and then sand it smooth, raised grain and all.

You can use the same approach with a water-based stain, which also raises the grain. The stained surface may become rough, but don't sand the stain. Apply one coat of finish and then sand. Be careful not to cut through the finish into the stain.



## Ebonize with Black Dye

The easiest way to make any wood resemble ebony is with black dye. Unlike pigment, which is the colorant used in paint, dye has transparent properties. You can make wood as black as you want and still see the figure of the wood through the dye. I prefer to use walnut when ebonizing because its grain is similar to that of real ebony.

Dyes come in many forms. I prefer to use powdered water-soluble dyes because they offer more time to wipe off the excess. If the wood doesn't become black enough with one coat, make a more intense color or apply one or more extra coats. Allow the dye to dry between coats.

## Reveal Flaws in Reflected Light

Something is bound to go wrong when you brush or spray. You may get runs, drips, spills, skips, orange peel—you know the list. The trick is to spot these problems in time to correct them. Reflected light is the answer.

As you finish, move your head so you can see the surface in a reflection of an overhead light, a window, a handheld light or a light on a stand. The reflection's shiny surface will show you the exact condition of the finish.







### Find Dried Glue

Dried glue causes spotting when you apply a stain or finish. Most glue dries clear, though, so how can you tell where it is? Water or mineral spirits reveal all.

Before a final sanding, wet the entire surface with water or, if you have adequate ventilation, with mineral spirits. This will make the wood darker, but glue drips, spills and fingerprints will be easily identifiable because they'll appear as a light color. How does this work? Glue seals the wood's

surface. Water or mineral spirits won't penetrate the glue spots, so those spots won't become as dark as the rest of the wood.

Water will soften dried glue, making it easier to remove with a card scraper or a chisel. You can also wash off glue by scrubbing with a rag and hot water. When you've removed the glue, sand with the highest grit of sandpaper you used on the rest of the project.

### Let Wood Conditioner Dry Thoroughly

Wood conditioners eliminate blotching much better when they're allowed to dry thoroughly. I believe the drying times recommended by manufacturers should be lengthened.

The directions for most solvent-based wood conditioners instruct you to stain within 2 hours of application. These conditioners are actually a varnish, which takes at least 6 to 8 hours to dry in a warm room. It's better to wait overnight before you apply stain.

Most cans of water-based wood conditioners say you can stain 30 minutes after applying the conditioner. I think you should wait at least 2 hours.





## Remove Water-Soluble Dye

It happens to everybody. On your sample, the color was perfect, but on your piece, it doesn't look right. Don't despair. There's an easy way to remove water-soluble dye color so you can try again. Sponge the surface liberally with regular household chlorine bleach. Almost instantly the color will lighten and begin to disappear. Two coats of bleach may be necessary and the process may slightly change the color of the raw wood. Rinse everything with water, sand the raised grain, and you've got a second chance.



ART DIRECTION: JOEL SPIES AND DAVID FARR • PHOTOGRAPHY: KRIVIT PHOTOGRAPHY  
CONSULTANT: MICHAEL DRESNER



## Thin the Finish for Better Leveling

Thinning a finish reduces brush marks and orange peel, which are two common problems when you're brushing or spraying. If the finish is thin enough, you can entirely eliminate these defects.

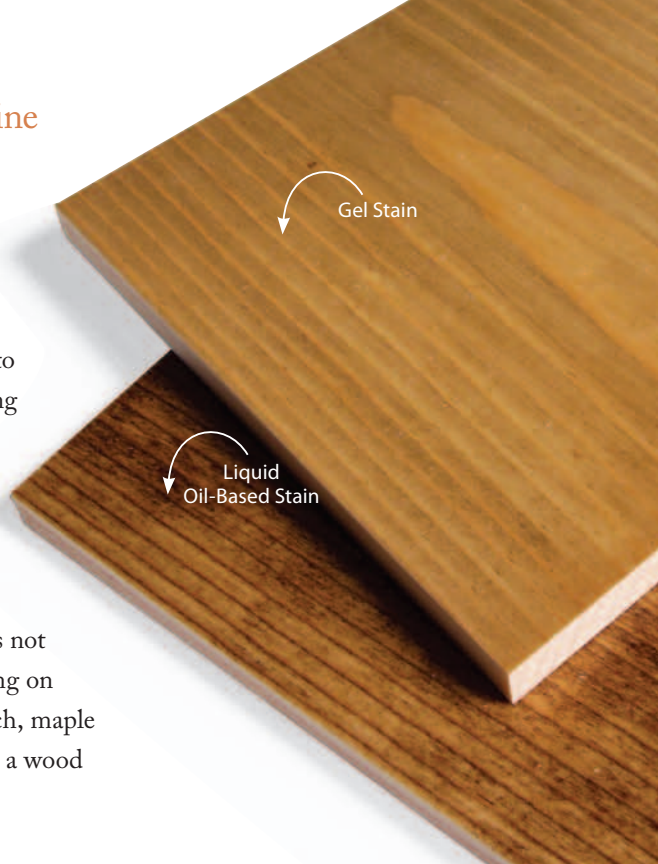
Use the appropriate thinner to thin the finish. Begin by thinning about 10 percent. Thin more, if needed, to achieve better leveling. For water-based finishes, it's best to use the manufacturer's "flow additive" to thin the finish. Adding a little water may help somewhat, but if you add too much, the finish will bead on the surface.

All finishes can be thinned. Sometimes instructions say not to thin a finish, but this is done to comply with EPA volatile organic compound (VOC) laws so less solvent evaporates into the atmosphere. No harm is done to the finish if it is thinned. Thinning does make a finish more likely to run on a vertical surface and to build at a slower rate, however. You may have to apply more coats than usual.

## Reduce Blotching in Pine

Staining pine can be a risky business. Some stains cause pine to look blotchy with irregular light and dark areas. Wood conditioners are widely used to reduce blotching prior to staining. For pine, though, using gel stain is far easier, more effective and more predictable than applying wood conditioner for achieving the intensity of color you desire.

In my experience, gel stain is not as effective at reducing blotching on hardwoods, such as cherry, birch, maple or poplar. For these woods, use a wood conditioner before staining.



## Sand More on End Grain

End grain can turn very dark when stained. More often than not, the problem is that the end grain is still somewhat rough from sawing. The same sanding procedure that you used on the rest of your project is often inadequate to prepare end grain for staining.

To remove saw marks, begin sanding end grain with a coarser paper than you are using on the side grain. An 80-grit sandpaper is usually coarse enough. When you have made the end grain smooth with this grit, work up through the grits just as you do with side grain, finishing with the same grit you used to finish-sand the side grain.

You can make sanding any end grain easier by sealing it with thinned glue or finish before you begin sanding. Thin a white or yellow glue with about three parts water. Thin any finish by about half with the appropriate solvent. Both methods stiffen the fibers, making them easier to cut off with the sandpaper.





GENERAL FINISHES  
CANDLELITE  
GEL STAIN

# Learn How to Get a Flawless Finish Without the Hassle

Throw away those expensive gimmicks and learn how the pros get a perfect finish every time. This practical new book filled with shop-tested advice from the craftsman contributors at *American Woodworker* magazine will show you how.

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- How to Minimize Costly Mistakes and Ensure Beautiful Surfaces
- Choosing Finishes and Matching Colors
- Brushing Shellac, Brushable Poly, and Wipe-On Glaze Coats
- Repairing Damaged Finishes and Successful Stripping

Learn how to use and clean a fine finishing brush, when to brush and when to wipe, and how to get a beautiful surface without the tedious labor of rubbing out. You'll find reliable advice for matching colors, making nondescript woods look great, and applying a glaze coat. A special section covers reviving damaged finishes, erasing water damage, and—when all else fails—stripping off the old finish and starting over.

