

Do It Yourself

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Staining

From "[Refinishing](#)"

episode DIF-103 -- [More Projects »](#)

Wood Preparation

DIY Refinishing host Bruce Johnson offers advice on sanding techniques and wood preparation for staining.

With the right preparation, wood staining can greatly enhance the natural grain, shades and textures of wood surfaces. Sanding, though sometimes tedious, is a necessary step in many staining projects--frequently undertaken after the piece has been stripped. A little basic knowledge will make this step go faster and more easily.

The grade, or grit, of sandpaper is based on the number of sand granules per square inch of paper. The higher the number, the finer the grade. Lower-numbered grades denote coarser sandpaper. The grit number **(figure A)** is generally printed on the back of each sheet.

Medium and fine grades of sandpaper are generally used in refinishing furniture and antiques. Coarse grits (those under #100) damage a fine wood finish. Medium grits, such as #120 and #150, are useful for removing old finish or scratches. Fine grits, such as #220, are frequently used for a final light sanding just before applying stain to the wood.

Power tools make sanding go faster, but heavy-duty ones such as belt sanders are designed for heavier carpentry work and could quickly ruin a fine antique. A palm sander **(figure B)**, a lightweight rotary sander, is more suitable for refinishing.

Hand-sanding is preferable for fine finishes and delicate pieces. Tear sandpaper sheets into fourths, then fold them into pieces just big enough to hold with three fingers **(figure C)**. You can create a makeshift sanding aid by wrapping a piece of sandpaper around a block of wood that fits in your hand **(figure D)**. Better still, use a contoured sanding block, available at hardware stores, that allows you to attach sandpaper by



When you're working with antiques and reproductions, proper sanding methods are important to ensure the look of fine craftsmanship.



Figure A



Figure B

inserting the ends into grooves at either end of the block (**figure E**).

Close inspection of a piece of wood reveals pores in the surface that form a pattern called the grain (**figure F**). Always sand in the direction of the grain--never perpendicular to it or at an angle. This also applies when working on edges and hard-to-reach corners. Scratches made by sanding against the grain will look unattractive on the finished piece and will be particularly noticeable after staining.

Position the piece so that the surface being sanded is horizontal and at a comfortable height. For a clean finish, hold the sanding block flat, firmly applying even pressure while moving back and forth in the same direction as the grain (**figure G**). Exerting excessive pressure or using the corners of the sanding block will create unwanted depressions in the wood.

The same rules apply when you're using a palm sander: sand with the grain and hold the sander flat against the wood while applying even pressure.

Wood dust from sanding will cause problems if it's not removed from the surface before staining. Dry rags or brushes aren't the most effective tools for removing dust. Instead, use a tack cloth, a sticky piece of cheesecloth made especially for this purpose. Wipe the folded tack cloth across the wood to remove dust (**figure H**). As each side becomes saturated with dust, refold the cloth to expose a fresh surface. Inexpensive tack cloths are available at hardware stores, or you can make your own by soaking a 12" piece of cheesecloth in a small amount of tung oil. Store tack cloths in a sealed plastic bag to prevent them from drying out between uses.

Some of the wood dust from sanding will become airborne, so it's wise to wear a particle mask (**figure I**) while working.

Staining Basics

Although the wide array of staining products on the market may seem bewildering, remember that staining is merely a means of adding color to wood. Staining may be used to darken the wood, to bring out a grain pattern, to make one variety of wood look like another or to accent details or fixtures of a piece of furniture.

Stains consist of three components: pigments, dyes and a carrier. The carrier determines whether the stain is oil- or water-based.



Figure C



Figure D



Figure E



Contoured sanding blocks make the job of sanding easier. For convenience, keep several blocks on hand, each with a different grade of sandpaper.

Staining dramatically and permanently changes the wood's appearance, so always test a stain before applying it to furniture. One option is to test stain on an area of the piece that won't show--such as the bottom or back of a dresser. Another is to use a piece of scrap wood for a tester. Because each stain produces a distinctive look on different types of wood, it's crucial to use a scrap from the same wood as the furniture is made.



Figure F

Stir or shake stain before beginning, as heavier pigments tend to settle in the can **(figure J)**.



Figure G

If the test-piece looks blotchy when you apply stain, you might need to apply a wood conditioner first. If so, apply a liberal amount of the appropriate type of wood conditioner (water- or oil-based, depending on your stain) about 15 minutes before staining **(figure K)**.

Apply the stain, making even strokes **(figure L)** with a brush, rag or staining pad. After a few minutes, wipe off excess stain with a cloth. Leaving the stain on longer usually yields a darker color.



Figure H

Once the entire piece is stained, let it dry overnight. Apply more stain if you wish to darken the wood further. As it dries, the stained finish may take on a dull look. A fresh appearance will return when finish is applied later.

Homemade Stains

Commercial stains have been around for about 100 years, but woodworkers have stained wood for centuries using pigments and dyes made from plants and minerals. You can make fairly simple stains at home and use them to give wood a distinctive look.



Figure I

Materials:

- Nails
- Vinegar
- Ammonia
- Turpentine or mineral spirits
- Roofing tar
- Strainer or straining cloth
- Clean glass containers with lids



Caption: Stains contain toxic ingredients, so always wear rubber

When experimenting with homemade stains, measure and carefully record all of the ingredients used. This will allow you to duplicate the same color of stain later. Without a record of how you prepared the stain, it would be nearly impossible to create the same stain twice.

Always test any stain--whether homemade or commercial-- on a test piece before applying it to an antique or piece of furniture.

Homemade water-based stains:

For a dark gray or ebony stain, soak iron nails in a jar of vinegar for several days (**figure M**). Once the vinegar has darkened, pour off some of the liquid, and brush it onto a test piece of wood (**figure N**). The results will not initially be dramatic, but as it dries, the wood will turn silvery gray or, with additional stain, almost black.

You can make a brown stain by soaking chewing tobacco in equal amounts of ammonia and water (**figure O**). As described above, strain off some of the liquid, brush the stain onto the wood and allow it to dry.

A popular old-fashioned stain may be made by soaking walnut husks in a jar of water for several days. Once the water turns dark, strain off the liquid (**figure P**), and brush it onto the wood for a dark-walnut stain.

Homemade oil-based stains:

A variety of materials may be added to turpentine or mineral spirits. Oil-based artist paints, roofing tar and even asphalt may be used to create stains. For example, mix a small amount of roofing tar into a cup of turpentine (**figure Q**) and stir. Pour the mixture through a cloth or strainer into a clean container (**figure R**) and label it.

Using a rag, test the stain on a piece of scrap wood (**figure S**). After the stain has been on the wood for a few seconds, wipe off the excess to get an idea of what the final stain will look like.

If you like the results, use the stain on a project. Rub the stain into the wood with a rag or applicator (**figure T**), making sure to wipe off any excess afterward.

Homemade stains don't contain a binding agent--the ingredient in

gloves, protective glasses and old clothes when working with them.



Figure J



Figure K



Figure L



Homemade stains may be made from easy-to-find materials such as tobacco or walnut husks.

commercial stains that seals the stain to the wood. For that reason, it's best to wait several days for homemade stain to dry before applying a finish. Apply the finish lightly to avoid drawing the stain out of the wood.

Accent Staining

Although most staining projects employ just one stain color, in some cases you may want to vary the colors creatively to highlight the details of a piece or mimic the natural effects of aging.

Materials:

Scrap boards

Stains, traditional and accent

Staining pads or rags

Rubber gloves

Protective safety glasses

Antiques often exhibit more than one color because of age--for example, because sunlight has faded the top surface of a table. Many antiques enthusiasts find this color variation appealing and indicative of a genuine antique. When staining a reproduction, you can create a similar effect by wiping off the stain more quickly on surfaces that are to be left lighter (such as a tabletop) and letting the stain remain longer on the surfaces to be left darker (such as a table's base or legs).

You can take color variation a step further when working with unfinished furniture. Accent pieces such as drawer-fronts or drawer-pulls may be stained with a second color to create a unique look. Stains are now available not only in natural and darkened wood tones but also in a range of colors--blue, red, green and so on.

When working with stain, always wear protective rubber gloves and safety glasses.

To begin, whenever possible remove parts that are going to be stained a second color from the main body of the piece (**figure U**). If that's not possible, use masking tape to protect those parts from the first stain.

Select a traditional wood-tone color for the main framework of the piece (**figure V**).



Figure M



Figure N



Figure O



Figure P



Figure Q

Apply stain to small parts that have been removed by dipping them into the stain (**figure W**), or wipe it on with a rag or a staining pad.

Apply the second stain--in a nontraditional color such as green or blue--to the portions to be accented (**figure X**).

After the stain has dried, put the piece put back together. After 24 hours, apply a finish.

When applying accent staining, be careful in selecting the details to be highlighted: there's a fine line between a look that's tasteful and one that's bizarre. Two colors is generally considered the limit--three or more colors tend to make the piece look more like a novelty than a piece of furniture.

After finishing your staining project, avoid a fire hazard by safely disposing of stain-soiled rags. Place them in a water-filled container that can be sealed and thrown away (**figure Y**).

RESOURCES:

The Weekend Refinisher: How to Make the Most of Your Furniture- A Step-by-Step Guide

Model: 034535866X

Author: Bruce E. Johnson

1989

The Wood Finisher: How to Finish Everything, From Decks to Floors to Doors

Model: 0345372972

Author: Bruce Johnson

1993

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[Staining](#)



Figure R



Figure S



Figure T



The judicious use of accent staining can produce a visually distinctive piece without covering up the wood's natural grain.



Figure U



Figure V



Figure W



Figure X



Figure Y