

## Appendix II: Finishes

### Finishing Characteristics of Common Cabinet Woods

Adapted from [Finishing Basics](#) by Sam Allen

Listed in this section are the characteristics of some of the more common wood species that you will come across as you begin wood finishing, and their finishing characteristics. There are hundreds of other species; the woods listed here are some of the ones commonly used to make furniture in the United States. The finishes recommended in this section are not the only ones you can use with a particular wood; they are just ones that work particularly well.

### Finishing Characteristics of Common Cabinet Wood

#### Alder

##### Hardwood

**Closed-grained**

**Color: light tan**

**Finishing characteristics:** Alder accepts stain well, and is often used to imitate more expensive woods. Nicknamed "poor man's birch," it resembles birch when given a clear finish. When stained dark, it will look like walnut to the casual observer. A lot of unfinished furniture is made from alder. Since alder is not well known by the general public, it is often simply called "hardwood" by the furniture manufacturer. It is an easy wood to finish; practically any type of finish can be used on it. To bring out the nature color, use a clear, penetrating oil. For a lighter finish apply lacquer or waterbased varnish. Alder also looks good with a dark stain and satin varnish.

#### Ash

##### Hardwood

**Open-grained, ring-porous**

**Color: Light tan**

**Finishing characteristics:** Ash is very similar to oak, but it doesn't stain as well, so it is often left unstained. It looks good with a clear finish or a light-colored stain. Clear penetrating oil or a thin coat of satin varnish makes a good top coat. The large pores are hard to fill completely so it is usually best to leave them unfilled to show the natural texture of the ring-porous grain.

## **Birch**

### **Hardwood**

#### **Closed-grained**

**Color:** Heartwood reddish brown; sapwood almond colored

**Finishing characteristics:** Birch stains very well. It can be stained to match many other types of wood. White birch is cut from sapwood. When you want a very light finish white birch works well.

Birch has a very subtle grain pattern. This makes it accept stain evenly, resulting in a uniform color without a pronounced grain pattern.

Birch looks good with practically any combination of stain and top coat. You can leave it natural or use a pastel stain for a light colored finish or stain it with a dark stain to simulate cherry, walnut or mahogany. Because of its smooth, hard surface, it is a good choice for a penetrating oil finish. Birch accepts shellac and varnish well. No filling is needed to achieve a smooth surface.

## **Cedar; Red, Eastern**

### **Softwood**

#### **Closed-grained**

**Color:** Red

**Finishing characteristics:** Red cedar has a strong, pleasant aroma that repels moths, so it has been traditionally used for chests that store textiles. The interior of a cedar chest should be left unfinished to allow the aroma to escape from the wood. The exterior of a cedar chest can be finished using most finishing products, but it is usually not stained. Because of the natural beauty of the wood, a clear gloss finish is the traditional choice for cedar.

## **Cherry**

### **Hardwood**

#### **Closed-grained**

**Color:** Reddish brown

**Finishing characteristics:** Cherry has a beautiful grain pattern and a fine texture. For these reasons, a clear penetrating oil finish is a good choice. Several coats of penetrating finish will bring out the natural color and grain and can be buffed to a beautiful, soft luster. Cherry also finishes well with other products. It stains well with medium-to-dark stains and can be given a high-gloss finish without filling.

## **Fir**

## **Softwood**

### **Closed-grained**

#### **Color: Reddish tan**

**Finishing characteristics:** Fir is a difficult wood to finish well. Its summer wood is much denser than the spring wood. This makes it difficult to sand to a smooth, flat surface, because the softer parts of the grain sand away faster leaving the summer wood raised slightly above the rest of the surface. It is also difficult to get an even color when staining. The spring wood absorbs a lot of stain, while the summer wood hardly absorbs any. This leads to a very pronounced grain pattern when dark stain is used.

One of the best finishes for fir is either a pastel or pickled finish. (See Chapter 11.) With these finishes, the characteristics listed above can be used to advantage. For a pickled finish, wire-brush the wood to further accentuate the grain, and then apply a pastel stain. Use satin varnish as the top coat. If you want to stain fir a dark color, treat the wood with wood conditioner first to help even out the color.

## **Mahogany**

### **Hardwood**

#### **Open-grained, diffuse-porous**

#### **Color: Reddish brown**

**Finishing characteristics:** Mahogany is one of the finest cabinetmaking woods. There are two varieties of mahogany: African and Honduran. African and Honduran mahogany are similar in appearance and have the same finishing characteristics. Mahogany finishes very well. It is open-grained, but its pores are small, so they can be filled well with paste wood filler. It has a beautiful grain that is enhanced by reflective characteristics that change as the viewing angle changes. The traditional finish for mahogany is designed to enhance these reflective qualities.

Stain the wood with medium-dark stain. Fill the grain with paste wood filler. Use colored filler that matches the stain. Apply four thin coats of rubbing varnish. Wet-sand the finish with 600-grit sandpaper, and then rub it out with rubbing compound.

Lacquer and shellac are also good top coats. For a satin finish, you can leave the grain open. For a high gloss, fill the grain with paste wood filler.

## **Mahogany, Philippine**

### **Hardwood**

#### **Open-grained, diffuse-porous**

#### **Color: Reddish brown**

**Finishing characteristics:** Philippine mahogany bears some resemblance to African mahogany, but it is not related. It is an inexpensive wood used in low-cost furniture and interior trim. It stains well, but its large pores make it difficult to achieve a smooth finish. It looks good when finished with a dark-walnut-colored penetrating oil. This leaves the texture of the wood showing, but gives the wood a soft sheen. If you want to varnish it, use a paste wood filler first. The pores are large, so the filler tends to pull out of them as you wipe it off. If this happens, work the filler back into the pores by rubbing the rag in a

circular motion as you wipe off the excess. If the color of the filler is darker than the stain, the uniform pattern of pores will hide the grain pattern. It is better if the filler is exactly the same color as the lightest part of the grain after staining.

## **Maple**

### **Hardwood**

#### **Closed-grain**

#### **Color: Light tan to almost white**

**Finishing characteristics:** Because it is very hard and closed-grained, maple can be polished to a deep sheen with a penetrating oil finish. Use a clear oil or a penetrating oil that is combined with a light-colored stain. Sand in the oil with 600-grit sandpaper. Apply several coats of oil, and then wax and buff. Penetrating oil will bring out and slightly darken the natural color of the wood. If you want a clear finish that doesn't darken the wood, use lacquer. Varnish can be used, but it will darken the wood slightly. A pastel finish looks good on maple. Use a pastel penetrating oil. No top coat is needed. You can buff the oil to a soft luster.

## **Oak, Red**

### **Hardwood**

#### **Open-grained, ring-porous**

#### **Color: Reddish tan**

**Finishing characteristics:** Red oak has a beautiful grain and natural color. It looks very nice when given a clear penetrating oil finish. Its large pores are concentrated in the darker parts of the grain pattern. The unfilled pores add a nice texture to the finish. If you want a darker color; red oak accepts dark stains well. The stain will accumulate in the open pores, accentuating the grain pattern with a pleasing effect. A dark colored penetrating oil is a good finish when you want a dark oak.

The large poles of red oak are hard to fill with paste wood filler; so it is usually not a good choice for a high-gloss finish. Even after you applied filler; some of the texture will show. If you want to varnish the wood, use satin varnish. You can apply filler before varnishing to make the pores less noticeable, but some texture will usually still show through the top coat.

## **Oak, White**

### **Hardwood**

#### **Open-grained**

#### **Color: Light tan**

**Finishing characteristics:** Because of its light color, white oak is a good choice for pastel or pickled finishes. The white pigments in the finish will accumulate in the open grain. emphasizing the grain

pattern. White oak stains well and can be stained any shade from light to dark. Its pores are large, but they are filled with small fibers. These fibers will trap filler, making it easier to fill the grain of white oak. If you carefully fill the grain with paste wood filler, you can give white oak a high-gloss finish. It looks particularly nice when rubbing varnish or lacquer is used and the finish is rubbed with rubbing compound.

## **Pine**

### **Softwood**

#### **Closed-grained**

**Color: Light tan or amber**

**Finishing characteristics:** Pine absorbs a stain unevenly; apply a wood conditioner before the stain to even out the absorption. Pine can be stained light or dark, but it looks best with light- to-medium shades. It works well with pastel finishes. Its light color and smooth texture produce a pleasing effect when a pastel rubbing oil is used. Pine is often used to make Early American or "country" furniture. For these pieces, a distressed antique finish works well. Sand the wood smooth and round off sharp corners. Simulate the dents and gouges acquired over time by hitting the surface with a hard object such as a steel punch. For the top coat, either apply several coats of medium-colored penetrating oil or stain the wood with a medium-colored stain; then use orange shellac or a light brown varnish stain. Finally, apply a dark wax. Use 0000 steel wool to rub in the wax; then buff the surface with a soft cloth.

## **Poplar**

### **Hardwood**

#### **Closed-grained**

**Color: Yellowish or greenish tan**

**Finishing characteristics:** Poplar is often used in commercially made furniture and stained to simulate more expensive woods. It stains well and has a subtle grain. You can give it a satin-smooth finish by sanding in penetrating oil with 600-grit sandpaper. To darken the color, use a penetrating oil that includes a stain. High-gloss and satin varnish both work well when applied to poplar.

## **Redwood**

### **Softwood**

#### **Closed-grained**

**Color: Red**

**Finishing characteristics:** Redwood is usually used for exterior furniture. It is very decay-resistant. If it is left unfinished, it will eventually age to a silver-gray color that is very attractive. If you want to preserve the original red color, give the wood an exterior penetrating oil finish. Don't use varnish for exterior

furniture It will eventually blister and peel.

## **Teak**

### **Hardwood**

**Open-grained, ring-porous**

**Color: Yellowish brown**

**Finishing characteristics:** Teak is durable and water-resistant, so it is traditionally used for woodwork on ships and boats. It is also a fine furniture wood, Teak contains natural oils that can make it difficult to finish. The oils prevent surface coatings from adhering. The best finish for teak is a penetrating oil finish. Teak can be finished with other products if the wood is carefully cleaned with solvent to remove the natural oils, but this is not recommended for beginners. If some oil remains, the finish can crack and peel later.

## **Walnut**

### **Hardwood**

**Open-grained, semi-ring-porous**

**Color: Heartwood dark brown; sapwood cream-colored**

**Finishing characteristics:** Walnut is one of the easiest woods to finish. It has a hard surface, and beautiful color and grain. A clear penetrating oil finish is often the finish of choice for walnut. The natural color of the wood is so desirable that many times other woods are stained in an attempt to duplicate the color that is achieved by simply applying a clear finish to walnut. Because the wood is hard, it can be highly polished; sanding in penetrating oil with 600-grit sandpaper will result in a satin-smooth polished surface. A final buffing with wax can produce a higher gloss. Stain can be used to even out color variations. In this case, choose a stain that closely matches the dark areas of the board. When exposed to direct sunlight for many years, the natural color of walnut tends to lighten. The resulting color is pleasant. However, if you want to keep the original dark color on a piece of furniture that will be exposed to direct sunlight, stain the wood before applying a top coat. Even though it is an open-grained wood, the pores are small enough to be usually left unfilled. Filler should be used if you will be applying a high-gloss finish or plan on rubbing the top coat. One of the smoothest finishes possible is produced when lacquer or rubbing varnish is applied then polished with rubbing compound.