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Dave Campbell
Editorial Content Chief, *WOOD* magazine



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working with pine

tips and tricks
for success

\$3.50
per board foot

2

\$1.50
per board foot

Building with this softwood calls for extra care and the right finishing techniques.

3

\$3.25
per board foot

1

At a home center, just down the aisle from red oak boards priced at \$7 per board foot, we found straight-grained, knot-free C and Better Select pine for about \$3.50 per board foot. The No. 2 and Better Common cost about \$1.50 per board foot for wide boards, and \$1.35 per board foot for narrow stock. We found untreated Southern yellow pine at a lumber outlet for \$3.25 per board foot.

Pine draws a lot of unglamorous assignments—window casings, garage shelves, and so on—but it dresses up nice, too. The same wood you used in shop class lends a nice look to country-style furniture.

However, if you've grown accustomed to working with hardwoods, it pays to make a few adjustments when you build with pine. It's soft, so it damages easily, and it contains resin canals, which produce pitch that can create finishing problems. Let us show you how to handle those challenges and achieve success with pine.

So what is pine?

Almost 100 species of pine grow in North America, but only a few of them have significant commercial value. For our purposes, we can narrow the field all the way down to two general categories: (1) white pine and ponderosa pine, and (2) Southern yellow pine. When you're building furniture, you'll want to stick with white pine or ponderosa.

Southern yellow pine, shown in **Sample 1**, is an unlikely choice for most indoor furniture projects. The strong visual contrast of its grain lines is jarring, and the great difference in density between earlywood and latewood creates

sanding and finishing problems. It's a good choice for outdoor projects because of its durability. However, at most home centers, it's available only as pressure-treated lumber with a green color.

To find white or ponderosa pine, check your local lumber outlets to see what they carry. You might have to rely on a store that caters to woodworkers. Some home centers carry boards marked "SPF." That designation means that a given board is either spruce, pine, or fir. Different species might look similar when unfinished, but they can create matching problems when you stain or apply a clear finish.



Putting knots in their place

You don't see many knots in hardwood boards at most lumber outlets. When you go pine shopping, however, you see plenty. The chart *below* describes the basic grades of softwood lumber, largely classified on the basis of the size, number, and quality of the knots. Practically speaking, your choices are simple.

For indoor furniture projects, you can buy medium-priced C and Better Select, as shown in **Sample 2**, or inexpensive No. 2 and Better Common, with numerous large knots, as shown in **Sample 3**.

Home centers carry wide pine panels, glued up from narrow boards. They're time-savers, but in most cases they include sawn-through knots that detract from your project's appearance. You get better-looking results by gluing up wide boards, taking care to keep the knots intact.

As you see in **Sample 4**, a panel made up of edge-joined narrow boards is likely to include sawn-through knots, which give a cheap look to your work. Wider boards, such as **Sample 5**, look better in a big project.

Pine requires TLC

Pine is a relatively stable wood, with a low tendency to warp as it dries. But it's

also soft, so it dents easily. To prevent dings, remove the wood chips, dried glue, and other hard objects from your workbench before beginning a pine project. Step up to an even higher level of protection by laying a nonslip pad on the bench, as shown in **Photo A**.

As for the knots, it pays to inspect them closely before you purchase your

Shopping for pine

The grading system for pine can be somewhat confusing, especially because different sources use different categories. The chart *below* gives you the essential points of reference.

For most of us, however, buying pine is a matter of sorting through what's available at a home center. Take your time, consider how you plan to use the lumber, and choose each board by its appearance. When price is a major factor, remember that a board with significant flaws can produce usable stock. In your shop, lay out the needed pieces on the clear parts of the board, and cut out the knots. With a little extra planning and sawing, you can save money and still build with clear pine.

Basic grading categories

GRADE	DESCRIPTION
C and Better Select	A combination of the two highest recognized grades, allowing only minor imperfections, including small, tight knots on the better side.
D Select	Numerous small knots and blemishes that cover smoothly with paint.
No. 2 and Better Common	Small to moderate-sized knots. Takes paint fairly well, but knots may need to be sealed. Used for siding, molding, shelving, and paneling.
No. 3 Common	Contains splits and loose knots. Does not take paint well. Used for crates, sheathing, subflooring, and secondary furniture components.



It's much easier to prevent dents and gouges in soft pine, rather than trying to fix them later. Before you start a project, take a minute to clean up your working surfaces. Then place a soft pad on the workbench to protect the wood.



You want this ...

lumber. Red, solid knots will stay in place throughout the building process and thereafter. You should avoid dark, “dead” knots with noticeable cracks or gaps, because they’re likely to loosen up and even fall out as you work with the lumber.

If you find a dead knot here and there after you begin your project, lock each one in place with clear, five-minute, two-part epoxy. With that done, you can saw, joint, or plane the wood without a problem. See **Photos B** and **C** for a precaution.



... not this

Pine mills easily with sharp blades and bits. However, it contains pitch, which tends to gum up sandpaper and can build up on planer rollers. To clean drum sanders and thickness sanders, use a rubber cleaning stick, as shown in **Photo D**. Consult your owner’s manual before inspecting your planer rollers, and then remove any residue with lacquer thinner.

Clean pitch buildup on saw blades by soaking them in kerosene overnight. You can clean router bits in the same fashion, just remember to remove any pilot bearings prior to soaking. Solvents can rob bearings of their lubricants.

Lock knots in place, and create a smooth surface for finishing, with epoxy. Use the kind that looks clear in its applicator tube; it dries clear, so the knot retains its natural look, as in the top sample. The epoxy shown in the bottom photo is white and opaque when dry.



Liquid Stain

Expect blotching when you apply pigmented stain to raw pine, as shown with two samples on the board above.



Liquid Stain over Conditioner

Begin with a conditioner, or mineral spirits, and you get the more even results shown on this board. Note that dark stains present more problems than light ones.



Pine tends to load up sanding belts and drums, so use a rubber cleaning stick occasionally to remove the residue. The sandpaper will cut better, stay cooler, and last longer with regular cleaning.



Gel Stain

Gel stains produce a fairly even color across most samples of pine, as shown here. The lighter tones, in particular, do away with any significant blotching.

How to eliminate blotching

Pine looks so clean and white after sanding—then you add stain, and it blotches, like the samples in **Photo E**. Why? Because the large pores of its earlywood soak up pigment like a sponge; the latewood isn't nearly as receptive.

You can significantly reduce blotching problems by using dye instead of stain. But if you prefer to use stain, begin by sanding the wood thoroughly. If you bought surfaced boards, or have jointed and planed rough-cut lumber, start the sanding sequence with 120-grit paper on your random-orbit sander. Switch to 150 grit, then 180 grit. If you plan to apply pigment stain, stop there. When using dyes, go on to 220 grit, then stop.

Now seal up the pores of the wood to keep the color in a uniform layer. The best choices are to use a pre-stain conditioner, a wash coat of shellac, or a gel stain. Let's look at them one by one.

■ **Conditioner:** You can use a product specifically labeled for this purpose, as we did on the samples in **Photo F**, or you can simply use paint thinner or mineral spirits. The goal is to fill the pores with solvent, then apply your stain before the solvent evaporates. The stain will stay on the

surface of the wood instead of penetrating unevenly.

■ **Shellac:** Make a very thin wash coat to seal the pores with shellac. Using a typical can of premixed shellac from the hardware store or home center, pour one part of the premix into a glass or plastic container, and add five parts of denatured alcohol. Brush this blend onto the wood, allow it to dry, and sand it lightly with 220-grit sandpaper. Sanding removes the shellac from the high spots, while leaving it in the pores.

■ **Gel stain:** Available in a variety of colors from several manufacturers, these thick stains remain on the surface of the wood, producing results like those in **Photo G**. Gel stains are basically thinned paint, but they allow most of the grain and figure to show through.

If you prefer to skip the staining step, you can use any clear coat to finish pine



F

Traditional orange shellac over unstained wood creates a nice color for country-style pine projects. Apply it with a foam brush, as shown, or go with a bristle brush.

without problems. Most clear finishes impart a warm, amber tone that improves the appearance of pine. Try orange shellac for an old-fashioned country look, as shown in **Photo H**.

To make the amber color darker, add burnt sienna colorant to varnish. This colorant can be a solvent-based dye or a Japan color, which consists of finely ground pigment in a varnish binder.♣

See more . . .

...country furniture projects at <http://woodstore.woodmall.com/>

The shellac solution

For blotch-free results and great color, here's a tip from Ohio furniture builder and finisher Steve Mickley. He uses several shellac-based recipes that produce beautiful colors on pine.

Begin with a generous application of boiled linseed oil, available at any hardware store or home center. Brush it on, and allow it to soak into the wood for about 30 minutes, and then wipe away the excess. This step adds depth to the finish, and emphasizes the subtle grain and figure of the pine.

Let the oil dry for at least five days, then proceed with the steps outlined in the caption to **Photo I**. For the final step, Steve recommends a water-based varnish to add protection without altering the color.

Written by **Jim Pollock** with **Steve Mickley**
Photographs: **Marty Baldwin**



To achieve the color on the left, start with linseed oil, then apply a 2-pound-cut coat of garnet shellac, followed by a water-based topcoat. The sample on the right received linseed oil, a 1-pound-cut coat of super-blond shellac tinted with burnt sienna dye, a coat of 2-pound-cut garnet shellac, and finally a water-based topcoat.

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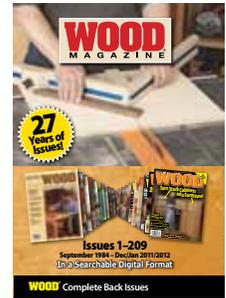
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