

## Pickling Wood



*A pickling solution has been applied to the door on the left.*

The technique is called wood pickling and it's accomplished using distilled white vinegar (regular household vinegar) and steel wool. The science behind it is simple. When the vinegar, which is usually between 5% and 8% acetic acid, is left to react with iron, the result is iron acetate. If this solution is brushed on wood, the iron acetate reacts with the natural tannins in the wood, producing varying shades of gray to black. This technique can be applied to a range of projects, from fine furniture to a new garden gate.

### **Making the Pickling Solution**

Place 1l (1.1 qt) of vinegar in a glass or plastic jar and fully submerge in it two to three pads or a 6" to 8" strip of fine, oil-free (so as not to contaminate the solution) steel wool. If the steel wool is not fully submerged, it will rust and turn your pickling solution a brown color. When applied to the wood, this will result in more of a brown stain. Do not use metal utensils in the mixture, which will introduce iron that will contaminate the solution. Seal the jar with a lid with holes punched in it to allow gases to escape.

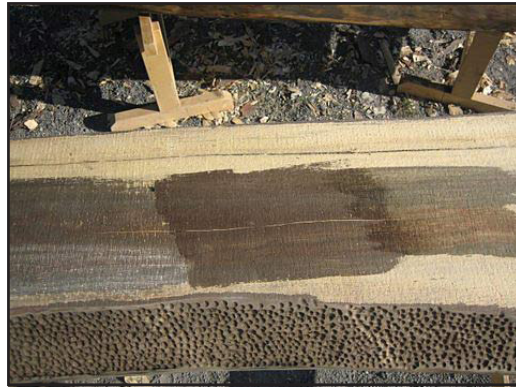
Allow the pickling mixture to sit for about 24 hours. During that period, the steel wool will disintegrate and fall to the bottom. If you see any brown in the solution before 24 hours has passed, it means the steel-wool particles are beginning to rust and the pickling mixture should be decanted. To remove the fine grains of steel wool, pour the solution through a coffee filter. You may need to do this two to three times until the mixture is cloudy white. As time progresses, the solution will slowly turn brown. Keep it in a closed container (no holes in the lid) in a dark location and use within two weeks. If used after two weeks, the pickling mixture will still react with the tannins in the wood, but it will begin producing a brown rather than gray color.

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### The Pickling Process

Wood species contain varying degrees of tannins. Some of the woods that react well to pickling are oak, walnut, mahogany, cherry, ash, maple, pine and beech. Woods with high tannin content, such as walnut, will turn jet black with the application of the full-strength solution. Since each wood species reacts differently, always test your mixture first. Use a sample board about 8" to 12" long, sanded to the final grit that you will be using for your project.

In a plastic container, dilute the solution by adding an equal amount of distilled water. Apply this to the wood with a foam brush to avoid contact with metal. Wear old clothes, as the pickling mixture will permanently stain cloth. Coat a small area of the sample board with the diluted mixture and label it. In another container, further dilute the solution. Apply this weaker mixture to another area and again label it. Wash your brush carefully between applications to avoid contamination. Continue along the board until you have a variety of test dilutions. The solution will go on clear and take an hour or so to produce the final color. It may darken slightly over time but it will not lighten. If you are applying a finish over top of the pickled wood, don't forget to do so to your sample board to check the final color.



*Use a sample board to test the color produced by various dilutions of the pickling mixture.*

To prepare your project for the wood-pickling solution, blow or vacuum out all the dust from the cracks and pores of the wood. Keep in mind that the pickling mixture will raise the grain of the wood. If this is undesirable, use water to raise the grain. After the wood has dried, sand it to the final grit. Apply the solution, working it into the pores and crevices with a brush. (A plastic scrub brush can also be used.) When working on an open-pore wood such as oak, add a drop of pure liquid soap that contains no scents or coloring to the pickling solution to break the surface tension. This will help the mixture penetrate into the pores of the wood, producing a uniform stain. If a darker color is needed for low-tannin woods, first brush the wood with strong tea to boost its tannin content. After the tea solution has dried, apply the pickling mixture.

## **Pickling Wood**



*The untreated wood*



*Wood that has been "pickled"*

The stain created by the pickling solution will sit mostly on the wood's surface. To create interesting color variations, lightly sand your work after pickling to cut through the stain; then reapply a different solution concentration to the newly exposed wood. With the wood-pickling technique, you are limited only by your imagination and the amount of tea you can brew.



*Various gradients of gray*

*Text and photos by Karen McBride*

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### **Reference**

[www.gailfredell.com](http://www.gailfredell.com)