

Using Wood Putty

Store-bought or homemade, putties can hide defects in wood and mistakes in workmanship

by Chris Minick

In my early woodworking days, a can of wood putty was just as vital as my table-saw. It seemed as though every project had at least one major putty patch. And regardless of how well I matched the putty color to the wood, a dark blotch always appeared when I stained the piece.

Those experiences taught me two valuable lessons: Store-bought wood putty is never the right color, and the putty always shrinks, even when the label says it won't. My woodworking skills have improved over the years, and obvious defects in my work have decreased to tolerable levels. But that doesn't mean I don't use wood putty anymore. I've just gotten a lot better at hiding the putty splotch.

The kind of putty I use de-

pends on the type of repair I'm making and the kind of finish I intend to apply later. I'll often make my own rather than rely on store-bought versions.

The binder determines the type of putty

Wood putty or wood dough (not to be confused with wood-pore filler) is a thick, pasty material designed to fill nicks, holes or other defects in raw wood. The ultimate wood putty dries quickly, sands easily and takes stain well. Most brands have some of these characteristics, but I've yet to find one that satisfies all the requirements.

I classify wood putties in three broad categories based on their binder resins: lacquer-based, oil-based and latex or water-based putties. Lacquer putties (like Bondex Plastic

Wood) and latex putties (like Behlen Wood-Fil) are probably the handiest varieties for the woodworker, but each has its own peculiarities.

If quick drying time is important, lacquer-based putties are the obvious choice. After hardening, they are compatible with most finishes. On the downside, they tend to shrink and crack more than other types of putty, and they take stain poorly.

Latex putties don't have many of the problems associated with putties made from lacquer. Like lacquer-based putties, latex putties dry quickly. But they don't shrink much, have excellent compatibility with finishes, sand easily and accept stain fairly well. They're also easy to tint (see the top left photo on p. 90). They've become the standard in my shop. I've found that latex

Wood putties by type

1. *Water-based putties dry fairly quickly and take stain reasonably well.*

2. *Two-part mixtures make hard and durable repairs quickly, but they absorb stain very poorly.*

3. *Floor putties are the author's favorite. They are sold only in large quantities.*

4. *Oil-based putties are good for minor fill jobs, like finish-nail holes in trim work. These putties stay flexible and never dry completely.*

5. *Lacquer-based putties sometimes shrink and crack as they dry.*

6. *Dry-powder putty can be mixed with water, stain or clear finishes. You mix only what you need.*



Custom colors from store-bought putty—The author used dry pigments and liquid tints to make this color. He dampened the wood with mineral spirits first to approximate a clear finish.

putties sold to wood-flooring installers stain better and shrink less than the ones sold to woodworkers. But these putties are hard to find and usually are sold only in quarts or gallons—more than a lifetime supply for many woodworkers. To find these putties in your area, look in the yellow pages under "Floor Materials and Supplies."

I stopped using oil-based putties in my shop a few years ago after a walnut desk finished with lacquer developed white spots over the puttied areas. Even after three days of drying, the oil interfered with the finish. You can use oil-based putty successfully under an oil finish, but it will remain soft. These nondrying and nonshrinking putties are useful for patching small nicks in finished pieces. I know several custom cabinet-makers who use them for those inevitable installation dings.

Two-part fillers perform some tasks better

Two other putties I've found useful in my shop aren't really

wood putties at all—auto-body filler (the stuff used to repair rusty cars) and epoxy glue. Chemically, Bondo body filler and the related Minwax High Performance wood filler are two-part styrene polyester fillers. Both can be used to make structural repairs in wood, set quickly and are totally nonshrinking. Best of all, the repair machines like wood. These fillers will not take stain, so they're best used under paint or in a hidden area.

Two-part epoxy adhesive also makes a good shrink- and crack-resistant putty. The slower setting epoxies work better because the extra cure time allows trapped air to rise to the surface. Although most epoxies can be colored with universal tinting colors (UTCs), powdered pigments or fresco colors made for artists work better. UTCs contain solvents that may not be compatible with some adhesives. I have used colored epoxy to fill cracks around knots. I've also used epoxy to glue loose knots in place. You

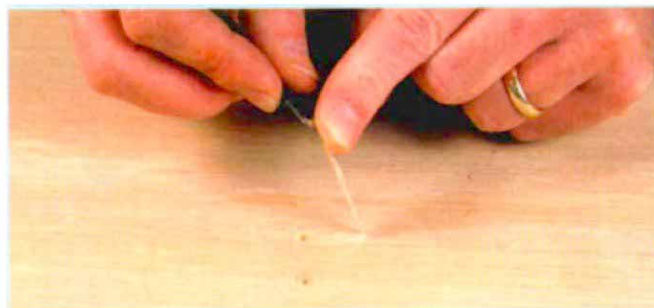
Make a putty repair disappear

The human eye has the uncanny ability to pick out regular shapes like circles or straight lines from a random background, while at the same time seeing minor color variations as a single tone. Military camouflage designers have used this to their advantage for years. Break up the lines, add a little color and you can make a tank disappear. I use a trick with putty based on the same principle (see the photos below). This procedure works best on open-grained woods like walnut and oak. Closed-grained woods like maple and birch take a little more practice.

I start by burnishing a piece of 2-in.-wide clear sealing tape over the defect. The tape prevents the grain pores surrounding the patch from filling with putty. Next I cut around the defect in an irregular shape, cutting through



1. Cover the repair area with sealing tape. To illustrate his technique, the author drills two holes. One will be filled conventionally; the other repair will be camouflaged.



2. Cut and remove a football-shaped patch. With a sharp razor, he cuts an irregular shape around the hole to be repaired. He will fill that and the other hole with latex putty.



3. Sand putty before removing tape. Once the putty has dried, he uses a sanding block to remove the excess.

the tape and removing that patch. Where possible, I follow the natural grain lines of the wood. I like to scrape some wood from the cutout with a sharp razor knife to give the patch some depth for the putty to fill. For a 1/4-in.-dia. hole, I typically cut out a football shape about 2 in. long by 1/4 in. at the widest point. I putty the hole with the tape still in place.

When the putty is dry, I sand it down, remove the tape and sand the patch flush. At this point, I apply a base coat of stain to the entire piece because I usually double stain my projects (a ground stain followed by a toning stain). After that has dried, I etch some fake grain marks into the putty patch, trying to mimic the patterns in the wood grain adjacent to the patch. I pay particular attention to spacing and depth. Any sharp scribe will work for cutting grain lines. I've outfitted a mechanical pencil with a sharp needle tip, and I use it exclusively for this purpose. Finally, I apply a second coat of stain that most often hides the patch completely. —CM.



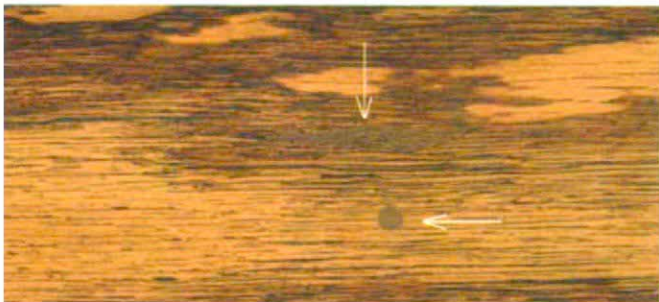
Shopmade putty. The author uses either shellac or hide glue as a binder and mixes it with fine sawdust. The color match is nearly perfect, and the repair virtually disappears.



4. Remove the tape. The author sands the putty one more time to bring it flush to the surface of the wood after the tape has been peeled off.



5. Scratches give the patch a third dimension. After the first base coat of stain, the author etches grain lines into the surface of the putty repair with a sharp scribe.



6. Compare the results. The round hole is a lot more obvious at a glance than the irregular patch above it.

can buy UTCs at most paint stores and fresco colors at art-supply outlets.

Shopmade putty for a better finish

Most woodworkers have made wood putty from sawdust and white or yellow polyvinyl acetate glue. Putty made with these glues works pretty well, but it usually doesn't take stain worth a darn. Even unstained, the repair tends to stand out once the finish goes on. To solve that problem, I make sawdust putty in my shop using either shellac or hide glue as the binder.

The procedure couldn't be easier. For projects that will get a clear finish and no stain, I mix fine sanding dust—the finer the better—with shellac until the mixture forms a thick paste, as shown in the photo above. It works just as well as any store-bought putty. Once this is dry, I sand the patch flush and seal the entire project with a thinned coat of shellac. Because the sealer coat and the

binder in the putty are both shellac, the repair virtually disappears. One drawback with using a shellac paste is that it won't take stain evenly.

For projects that will be stained, especially with aniline dyes, I use the same procedure except that I substitute hot hide glue for the shellac. After the defect has been filled, I seal the workpiece with a size made of diluted hide glue, thinned with water to the consistency of milk and applied with a brush. Once that has dried, I sand the surface lightly and then apply the stain. Hide glue absorbs stain amazingly well. The entire piece, including the patch, comes out the same color.

Hiding defects and wood-working mistakes can be frustrating. When all else fails, I ask an artist friend to paint a fake knot over the offending blemish. This method produces the most invisible repair, but it's a bit hard on my ego. □

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