

Working with burl veneer

BY SCOTT GROVE



I have always been intrigued by the swirling patterns in burl-wood veneer. Each is a one-of-a-kind mural by Mother Nature herself. If burl wood is selected, processed, seamed, and finished properly, no other wood will generate such striking figure. However, burl veneer can be difficult to work with and often requires special handling.

Burl-wood veneer is created by slicing an abnormal growth mass in a tree into paper-thin sheets. Man-made burls are available, but they are reconstituted and dyed from cheaper woods.

Selecting the best material is a critical step. I buy most of my veneer through mail order and always purchase an extra leaf to use as backup or for patching. The veneer should arrive in sequence. As you flip through the stack, the figure on each piece should be similar but gradually change. Label each leaf in sequence to keep from getting mixed up during layout. Also, inspect each leaf for flatness, brittleness, checks, surface compression, and other inclusions. Cull the imperfect sheets from the stack and tape the edges of brittle sheets for easier handling.

Make small repairs with a punch

Flatten and patch veneer first

Veneer first must be flat to be used. Some veneers are inherently wrinkled, such as olive ash or oak

Disappearing seam. Grove's counter-bevel technique makes seams hard to detect, as is the case with his contemporary coffee table.



burl, and will require flattening and softening. However, most that come from a supplier should be no more than 1/2 in. out of flat.

There are several methods for flattening veneer, and many involve soaking the sheets in a solution (see *FWW* #167, p. 120). I prefer to buy a premixed product called GF-20, made by Borden. It doesn't cause the leaves to stick together as some home-brewed concoctions do. For minor, isolated instances of flattening, use a household iron set at about 150°F to 212°F dry or with a steam setting. Apply gentle pressure and iron both sides of the veneer.

Patch medium-size imperfections with a punch

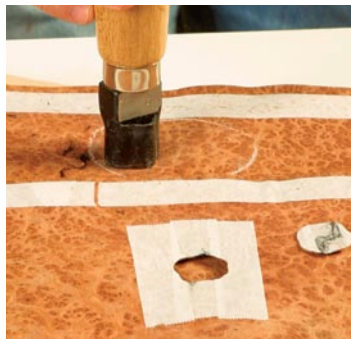
Major imperfections should be repaired before cutting and gluing the veneer. Medium-size holes,



Tape over the void to prevent it from checking. Work the sheet with the face side up and never leave tape on the underside.



A cloud-shaped punch is best for burl. This type of punch is commercially available or can be made by hand from steel pipe.



Make the patch from a spare veneer leaf. Cut the patch from an area with matching color and figure to conceal the repair.



Flip over the leaf to inspect your work. A good patch will blend into the surrounding material.

Patch large areas with a template



Trace the area to be patched. Draw the perimeter with a wavy line, and then make a Masonite template of that shape.



Template guides the cut. To prevent checking, tape the veneer around the area to be cut, then make several passes with your cutter.



Cut a patch from the spare leaf. Look for an area on the extra leaf that is a match in grain and color, and take the patch from there.

Flip the leaf to inspect your work. Paying attention to grain and color makes patches easier to conceal.



roughly the size of a quarter, can be repaired with a patch from matching material. You will need a veneer punch, which is available in a variety of sizes and shapes (Veneer Systems Inc.; www.veneersystems.com; 800-825-0840). The cloud-shaped punch is best for burls.

A veneer punch is used like a cookie cutter, but some preparation is required. First, stick veneer tape over the imperfection to prevent the edges from checking. I like to trace the area to be removed with a pencil so I can position the punch accurately. Then simply punch out the void. On brittle material, I heat up the area with an iron to ensure a clean cut. Next, with the veneer punch, cut a patch from the extra leaf that matches in color and figure. Use veneer tape to hold the patch in place for pressing.

Large patches require a hand-made template

It's not unusual for burl to have large missing sections or holes greater than the size of a punch. To make patches, I use a cloud-shaped Masonite template larger than the area to be repaired. Keep the template's edges smooth and square.

Tape around the perimeter of the damaged area to prevent the edges from checking. Lay the template over the damaged area and hold it firmly in place. (A piece of sandpaper on the bottom of the template will prevent it from slipping.) Gently cut around the template with a utility knife. Start with a light pass and gradually increase pressure; typically it will take three or four passes to break through. Be sure to keep the blade square with the template edge. Repeat this process with the patching material to create an exact plug for the damaged leaf. Then tape the patch in place with veneer tape.

Use wavy lines for joints, too

Traditionally, veneer sheets are joined with a straight seam, which I find unappealing. My alternative technique is called a contour bevel seam. By cutting a wavy seam through the burl figure on a bevel, I can make the seam almost invisible.

The contour bevel seam employs the same cutting technique as marquetry inlay. Two pieces of veneer are overlapped and cut at the same time on a 14° bevel. When the two are joined, the beveled edges overlap perfectly, hiding the sawkerf.

To start, identify precisely the seam location on each leaf and make a mark on the veneer sheets at the top and bottom edges. Most of the time you want to align the two sheets so that they are book-matched. You can use a mirror to help visualize this pattern. If the seam will not have a book-match, join the two pieces at areas of similar tone and grain

Use a wavy seam to join leaves

Cut the wavy seam on a scroll saw. Align the two leaves and tape them together from both sides. Tilt the scroll-saw table to 14° and cut in a wavy line.



Tape the leaves together. Temporarily join the leaves with blue masking tape, then apply veneer tape (left), over the seam. Tear away the masking tape, and use more veneer tape to fill the gaps. Iron the veneer tape immediately to release the moisture (right).



Flip the leaves to inspect the seam. The irregular seam blends with the burl and will be hard to locate after finish has been applied.



pattern. Overlap the leaves, lining up the edges with the pencil marks. Then shift them up and down until the grain pattern matches across the seam. Tape the two sheets together with masking tape, and lay masking tape on both sides of the veneer in the path of the seam to help prevent chipout when cutting.

To make the contour bevel cut, I use a scroll saw with a 2/0 blade and tilt the table to 14°. I always cut the veneer face side up and keep the blade cutting in a wavy pattern. After the cut, carefully remove the masking tape from both sides of the veneer. If you don't have a scroll saw, this cut can be done by hand with a long, wavy Masonite template and a utility knife, similar to the patching method described earlier. This technique works not only for joining leaves but also for making large repairs on a single leaf.

Tape the seam for pressing

Dry-fit the seam and temporarily tape together the entire piece, face up, with masking tape. The wavy seam will align itself. Once the pieces are aligned perfectly, secure the seam with veneer tape, removing the masking tape as the veneer tape is applied. Lightly iron the freshly taped seam to set it and drive out any adhesive moisture. As the tape dries, it will shrink and help pull the seam together. If it's not ironed, the seam may swell and appear tight, only to dry out later and open up.

Once the veneer has been adhered to a core with white PVA glue (for more on veneering, see *FWW* #164, pp. 74-79) and pressed in a vacuum bag or with clamps and a platen, there are a few final steps. After at least two hours, moisten the veneer tape with a wet sponge and peel it off. Also, check for glue that may have squeezed through during pressing and remove it with a touch of warm water and a hand scraper. Then inspect for air bubbles by rubbing your fingers over the surface and listening for a hollow, light sound. To repair, cut the bubbles open, inject glue, and iron or clamp the area flat.

Sand and finish

I generally sand with 120-grit, 150-grit, and 220-grit abrasives, being careful around the edges. After the last grit, wiping the surface with mineral spirits allows for a final inspection of glue or scratches.

I like to enhance the grain with a gel varnish and then spray a topcoat of catalyzed satin conversion varnish, sanding between coats and dealing with touch-ups after the first coat. My final rub is a wet-sanding series, up to 4,000 grit. This will leave a slightly open pore surface with a very durable, silky-smooth feel. □