BY DAN FAIA

Hammer veneering

When it comes to applying veneer, modern woodworkers tend to lean toward more mechanical procedures, such as veneer presses, vacuum bags, and clamps and cauls.

Veneer presses work well on large, flat surfaces, but they take up an enormous amount of floor space. And while vacuum bags are excellent for all veneering applications, flat or curved, a quality bag system is a big investment ($500 and up). Clamps and cauls are labor-intensive to set up, especially for curved surfaces. Hammer veneering, on the other hand, requires only two items: a glue pot to keep the hide glue at the proper temperature and a veneer hammer to apply it.

The glue pot ($100) and veneer hammer ($32) can be purchased from a number of sources, including Highland Hardware (800-241-6748; www.highlandhardware.com). For the very frugal, a stove-top double boiler can be assembled easily from household items, and the veneer hammer can be shopmade.

Hammer veneering involves applying heated hide glue to the substrate, the underside of the veneer, and its top side (to lubricate the hammer). Then the veneer is pressed, not pounded, into place with the straight edge of the veneer hammer. The job is complete within a few minutes after the glue has cooled.

Hide glue has many qualities that make it suitable for hammering. For one, with hide glue you may loosen the glue bond using heat and reposition or readhere problem areas. Also, glue applied to the top side of the veneer acts as a grain filler and sealer coat and can be scraped, sanded, and finished more easily.

The hammering technique works on both flat and curved surfaces. On curved substrates, I usually glue the veneer seams

A simple but effective veneering kit. *With a relatively small investment in a glue pot and veneer hammer, you can veneer both flat and curved surfaces.*

HEATED HIDE GLUE IS THE KEY

Hide glue must be mixed with water—the ratio varies for different glue types—and then heated and kept at 140°F in a glue pot or double-boiler setup.

Scuff the surface and apply glue size. *Rough up the substrate with coarse sandpaper. Then brush on a size, a watered-down coat of hide glue, and let it dry.*

Now paint hide glue onto all surfaces. *Apply full-strength glue to the substrate and the underside of the veneer.*

Veneering goes quickly. *Position the veneer and apply glue to the top side to lubricate the hammer. Start from the center and work toward the edges, pushing out air bubbles and excess glue. Work the surface continuously until the glue cools.*

Photos: Asa Christiana

CHECK FOR BUBBLES

Tap the surface with your fingernails to search for any air pockets, which sound hollow, or glue pockets, which feel soft. Both are easy to fix. Large pockets will need to be sliced open; small ones won't.

Removing glue pockets. *Slice open the pocket (above), and then apply heat to the area with an iron (right). The heat will soften the glue, allowing the excess to seep out while the iron presses down the raised veneer.*

with yellow glue and remove any veneer tape or masking tape before hammer veneering. The veneer should overlap the substrate by roughly ⅛ in. all around to allow for minor shifting during application.

Cook up some glue

I buy hide glue from Bjorn Industries (704-364-1186), where an expert will recommend a particular strength based on the substrate, the veneer type, and the desired open time. But standard, good-quality hide glue is widely available. Buy it in ground form, as opposed to pearls. In my experience, ground glue melts more quickly in the pot and produces a smoother consistency.

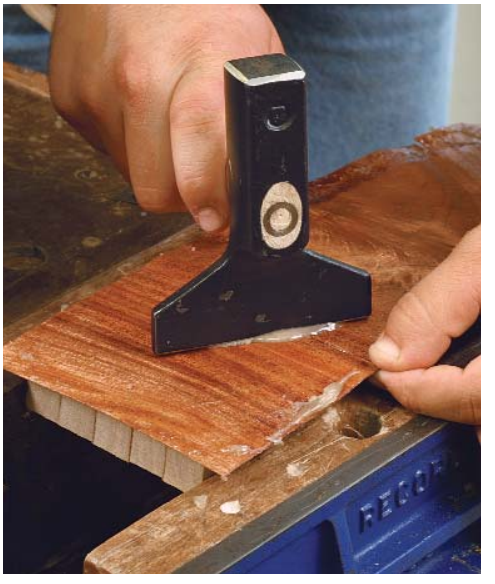
Mixing and heating the hide glue is the only tricky aspect of hammer veneering. Glue that is too thin won't have enough adhesion strength, and glue that is too thick is difficult to hammer out, leaving glue bubbles under the veneer. The final consistency of the glue should be between that of heavy cream and pancake syrup.

Mix the hide glue with cold water (one part glue to two parts water). Let the mixture stand for approximately a half-hour—until it has absorbed all of the water. Then cook the hide glue for at least 20 to 30 minutes in a double boiler or glue pot. A glue pot creates the proper temperature automatically. However, a makeshift double boiler—simply a lower pot creating a water bath, with a second pot containing glue suspended inside—needs to be monitored to keep an approximate 140°F temperature and avoid burning the glue. As hours go by, heated glue may thicken and need to be thinned by adding some water.

I put water in the glue pot and place the glue in a separate jar in the water bath. It's not necessary, but it makes cleanup easier. Hide glue is best used when the ambient temperature is around 68°F to prevent the glue from tacking up too early. If the shop is cooler, heat up the veneer and substrate with a hair dryer prior to glue-up.

Prepare the substrate and apply the veneer

It's a good idea to rough up the substrate with coarse sandpaper to help adhesion. Because of the nature of hide glue, it doesn't bond



Fixing air pockets. *Again, slice open the pocket (left), if necessary, work glue into the cavity (center), and then hammer down the problem area (right) for an invisible repair.*

quite as well on a perfectly smooth surface. Also, I apply a watery hide-glue mixture—called glue size—to the substrate before veneering. This prevents the substrate from drawing too much moisture out of the glue. To make the glue size, mix five parts water and one part glue, and heat it in the glue pot.

Apply the glue size with a brush and allow it to dry before veneering. Then brush the full-strength hide glue (be sure it is heated fully) onto both the veneer and the substrate. Lay on the sheet of veneer and press it into position by hand. Paint a thin coat of hide glue on the top face of the veneer. This lubricates the surface for hammering. Hide glue cools quickly, so work briskly.

Start pushing down the veneer with the veneer hammer, using a firm squeegee-like motion and working from the center out. The veneer hammer can be pushed or pulled. Work the surface diagonally and push out the excess glue. Avoid going directly cross-grain, which will tend to split the surface veneer. Keep working the entire surface until the glue starts to gel and tack, which should take two to three minutes.

Look for problem areas

Once the veneer has been hammered into place, set aside the piece for 30 to 45 minutes, until the veneer is dry to the touch. Then tap the surface with your fingernails. Two problems that occur occasionally are air and glue pockets. Air pockets will sound hollow and make a ticking sound. Glue pockets will be silent, soft, and rubbery. Small air and glue pockets (smaller than a dime) can be fixed with a clothes iron. Heating the pockets enough to warm the glue allows them to be hammered down.

Larger glue and air pockets will need to be sliced with a razor blade so you can either add glue or remove air (see the photos on p. 102). Then these areas are reheated with the iron and hammered again.

Once you've fixed any problem areas, trim the excess veneer with a sharp chisel. Scrape the hide glue from the surface of the veneer in the direction of the grain, lightly sand, and you're finished. It's that simple. □

A low-tech method for high-style results. *The curved aprons on the author's Federal-style table are perfect candidates for hammer veneering.*

TRIM EXCESS VENEER

When the glue is completely dry, use a wide, sharp chisel to shave away the excess veneer (above), working toward the substrate to avoid chipping the edges of the veneer. After joints have been cut, scrape and sand the veneer (left) before applying a finish.