Waterfall Edging

Master this hallmark of Art Deco furniture

BY CRAIG THIBODEAU

If you love Art Deco furniture as much as I do, you've noticed the way the grain seems to flow over the edges of certain veneered panels like water. This is done with a combination of crossbanding around the top face and matched banding on the edges.

The key to the effect is lining up the grain on the face and edges. It requires a little more effort and precision than other edge-banding methods, but it is not as complex as you might think.

I'll show how to apply waterfall veneer on all four edges of a tabletop or door. On doors, I often veneer the back with a contrasting wood that matches the interior of the cabinet.

It's difficult to pull off large veneered panels like these without a vacuum bag or press, but a basic pump and bag system is relatively affordable, and useful not only for veneering but also bent laminations.

Prep the panel

The classic waterfall starts with a crossbanded border on the face of the panel, with the banding's grain direction flowing outward, away from the center. With this type of a border, the substrate has to be cut to final size up front. That's because trimming the edges after veneering would alter the widths of the border pieces, making them uneven at their mitered corners.

For the substrate of this small tabletop, I used two pieces of ¾-in.-thick Baltic-birch plywood, laminated in the vacuum bag. The layers in the plywood edges would telegraph through a single piece of edge-banding, so after trimming the panel to ⅛ in. under the final size, I edged it with 1/16-in.-thick solid mahogany. Any fine-grained wood between 1/32 in. and ⅛ in. thick will work.

Cut the crossbanding strips

To make the edge banding a perfect continuation of the face banding, all of the parts are cut from the same sheet of veneer. Quartersawn veneer works best, because the straight grain is easier to line up.

To get all the crossbanding strips I needed for my 20-in.-square tabletop, I cut a stack of four sheets of quartersawn walnut veneer, each a little over 5 in. wide by about 24 in. long, and stacked them. I taped the stack together at its ends and trimmed its sides straight (and parallel with the grain) using a sharp veneer saw with a wood block as a guide. Sandpaper glued to the bottom of the guide block kept it from shifting during the cut.

Then I taped the four sheets edge to edge and crosscut them to create the strips of crossgrain banding. With straight-grained veneer, I could cut the crossbanding strips ¼ in. wider than necessary and trim them flush with the tabletop afterward, without interrupting the grain match. Be sure to mark the parts to keep track of their orientation.

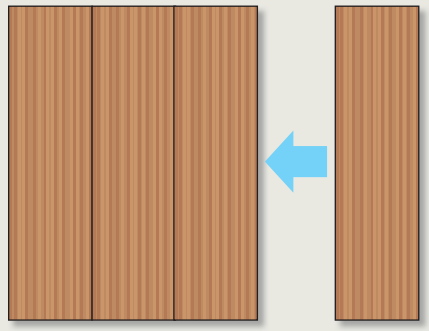
Join the banding and central veneer

One of my favorite things about veneering is how easy it is to create clean, beautiful patterns, like this central field of maple with a cross-grain walnut border. Unlike

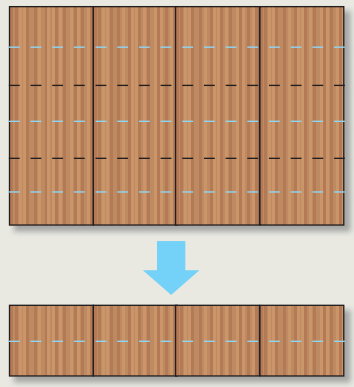
Photos: Asa Christiana; drawings: Michael Pekovich

CREATE CROSSGRAIN BANDING

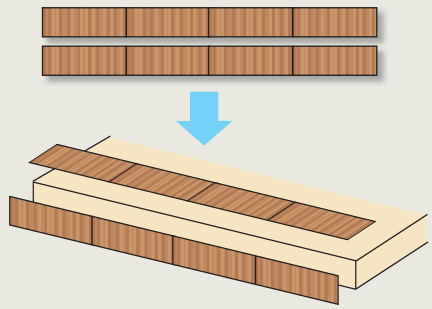
1. Using blue tape, edge-join squared-up sheets of veneer to create a panel wider than one side of the table, and long enough to provide all the crossgrain strips needed.



2. Crosscut the veneer panel into four cross-grain strips, each long enough to span the table and wide enough to yield a matched pair of face and edge bandings.



3. Slice each strip into two pieces, keeping track of their orientation to create a continuous grain match from the top of the table to the edge.



PREP THE CROSSBANDING

The waterfall effect depends on continuous grain in the border and edging, so these strips must be cut from the same sections of veneer.

Trim the stack. *Figure out how much crossgrain veneer you need, tape it into a stack, and trim the edges parallel to the grain. Use light pressure and multiple passes to cut cleanly through the four plies.*

Tape them edge to edge. *Flipping every other piece for a bookmatched look, pull the edges together and stretch painter's blue tape across them. Then run a piece of tape down the seam.*

One pair at a time. *Using a cutting mat's grid lines to ensure square cuts, Thibodeau cuts a 3½-in.-wide strip of crossgrain veneer, enough for two matched 1¾-in.-wide strips, which will overlap the edges of the panel before being trimmed flush. Mark each strip to keep track of orientation and cut down the middle to separate the border from the edge banding.*

TAPE AND GLUE THE FACE VENEER

Veneer patterns are much easier to execute than solid inlay. All you need are clean cuts and a few strips of tape.

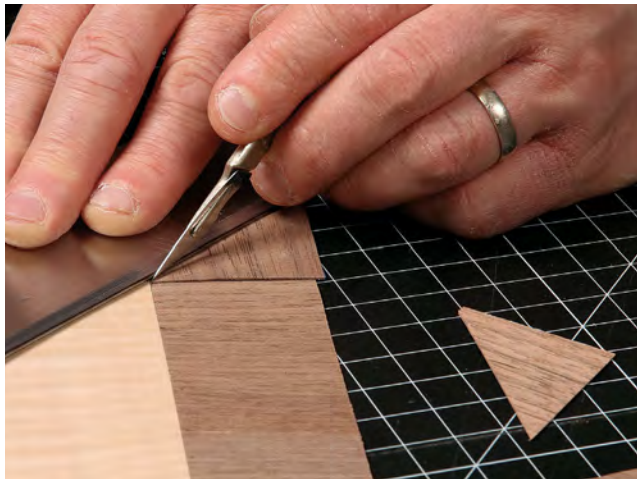
Add the border. *Attach one strip of the crossbanded border at a time, aligning its center joint with center marks on the panel and letting the ends overlap their neighbors.*

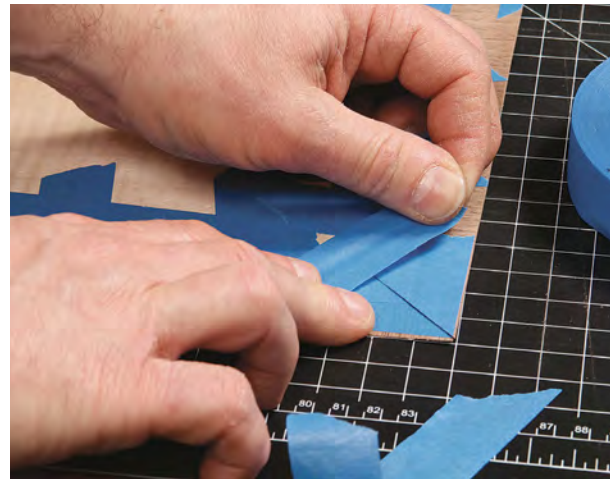
border inlay or banding in a solid panel, a veneered pattern is assembled as a single sheet—using nothing more than tape at the joints—and applied to the substrate in one piece.

Start by taping the border of face bandings to the central field of veneer. Make sure to center each piece of banding, and just let the ends overlap. Creating clean miter joints on these pieces is as simple as cutting through them with a scalpel, guided by a thin metal ruler. But first apply blue tape to the path of the cuts to prevent chipping and blowout. Then flip over the sheet so you are working on its glue face. With the tape facedown, you'll be able to see the corners for alignment. This also puts the wider part of the V-shaped cut on the back side, so the joints will be tight on top. And if one of your light scalpel cuts goes astray, it won't show on the top surface.

Glue down the face veneer and add the edge banding

Gluing down this sheet with its crossbanded border is like gluing any sheet of veneer, but with extra time spent aligning the miter joints. This is where the extrawide banding comes in handy, letting





Miter the corners. *Flip over the sheet, align a metal ruler with the overlapping corners, and make a series of passes with a sharp scalpel, light at first. Then flip the panel back over to the show face, and stretch tape across each joint.*

Clean up the overhang. *After gluing the veneer to the substrate, use a flush-cutting bit to trim the overhang (left). Then attach 120-grit paper to a long, hard block and sand away any remaining glue or veneer (above). Note that the plywood substrate was pre-edged with mahogany veneer to keep the layers from telegraphing through the show veneer.*

APPLY THE WATERFALL EDGE BANDING

The waterfall edge banding goes on last, one strip at a time, with conventional clamps this time.

One strip at a time. *After applying glue, align the edge strip carefully and tape it in position. Its extra width makes it easy to align the grain perfectly. A thick cork-lined caul distributes the clamping pressure evenly, and a second caul protects the opposite edge of the panel. Wait a couple hours, trim the overhang, and move on to the next strip.*

you look closely at the mitered veneer joints at each corner and align them perfectly with the panel. Also, make sure the grain direction of the center veneer runs opposite the direction of the Baltic-birch plywood; that will help keep the panel flat.

Let the vacuum pump run and the glue dry overnight, and then trim the overhang flush around the perimeter with a trim router, using a climb-cut to prevent chipping. Now give the edges a quick sanding with a hard block (no cork) to clean up whatever the router bit left behind: glue drips, a bit of overhanging veneer, etc.

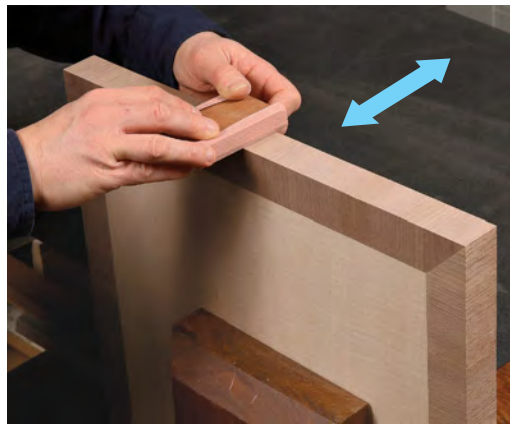
I glue on the edge crossbanding strips one at a time using F-clamps and cork-lined clamping cauls. I wrap packing tape over the cork to make sure glue won't stick.

Pay close attention to the grain alignment between the edge banding and the face banding. Let each strip set up for a couple of hours before trimming it flush with the router and sanding block and moving on to the next one.

Sanding waterfall veneer for finishing

The grain on the face of this panel runs in every direction, requiring special care when sanding. I do an initial flat-sanding with a long cork-lined block and 150-grit paper, to level the surface and remove leftover glue, and then follow with a random-orbit sander at 180, 220, and 320 grit. Sand the edge banding with the grain, making lots of short strokes with a smaller block (no cork this time). Be careful to keep the block flat against the edge.

These fundamental veneering techniques are great to learn, and they're all you'll need to make world-class waterfall veneer. □



Final surface prep. *Make short strokes across the edge, using a small, hard sanding block. Then apply a very fine roundover to the corners, hand sanding with folded 320-grit paper, and the joint disappears.*

Craig Thibodeau is a furniture maker in San Diego, Calif., and the author of The Craft of Veneering *(The Taunton Press, 2018).*