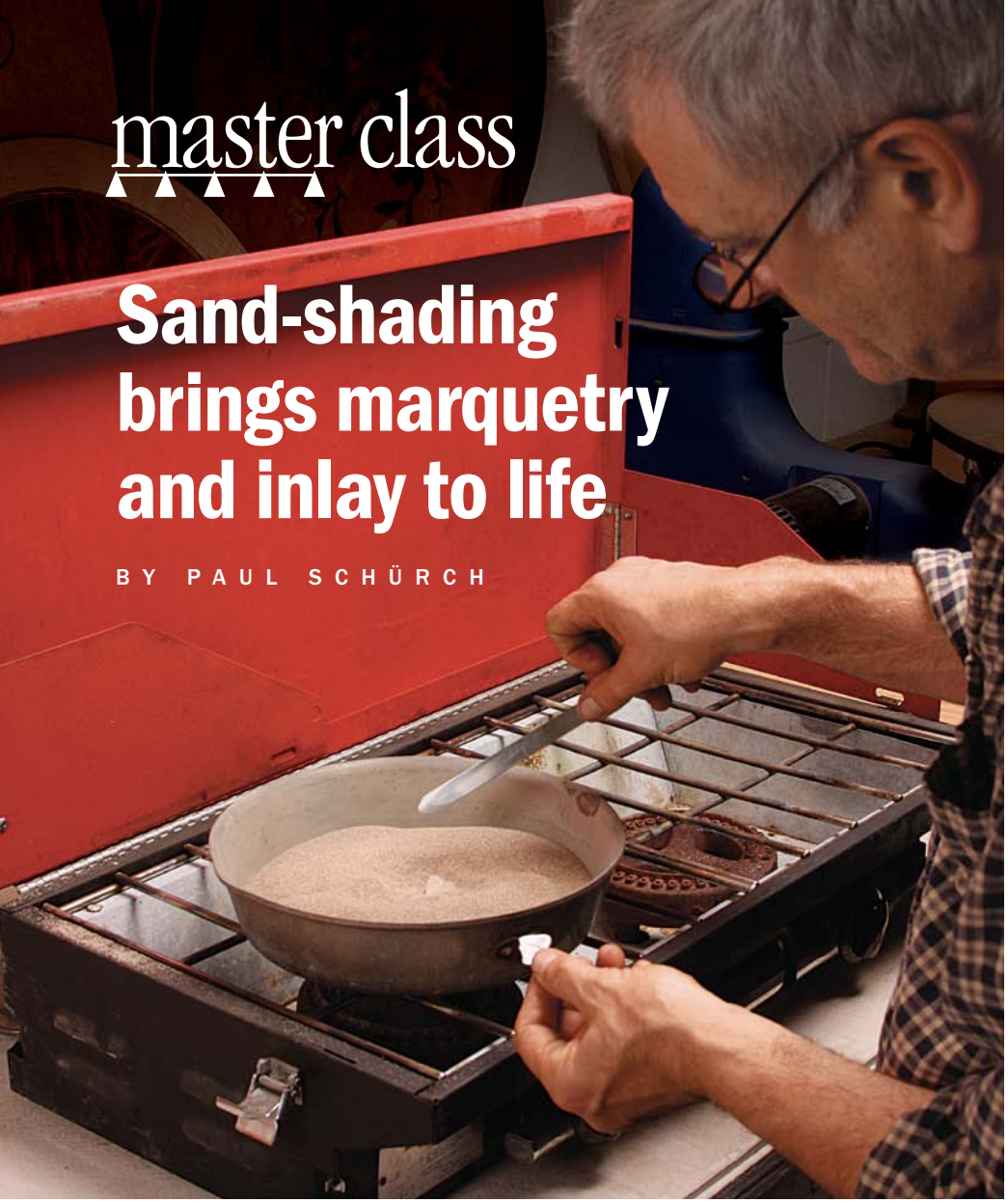
master class

Sand-shading brings marquetry and inlay to life

BY PAUL SCHÜRCH



Simple setup. *Schürch uses a propane camping stove and a non-coated pan filled with clean, washed silica sand.*

Without shading, marquetry can be flat and lifeless. With it, you get a 3-D effect that brings pictures to life, whether they are the folds in a linen cloth, the petals of a rose, or the shadows and lines of a face. It brings the same depth to many types of inlay in solid wood, too.

The good news is that shading is easy to do, using a low-tech, traditional method called sand-shading, in which a piece of veneer is scorched along one edge in a pan of heated sand to create a permanent, realistic shadow that goes smoothly from dark to light.

The process starts when you are making the initial drawing of the pattern or image. Pencil a series of small dots on the drawing along the edge to be shaded.

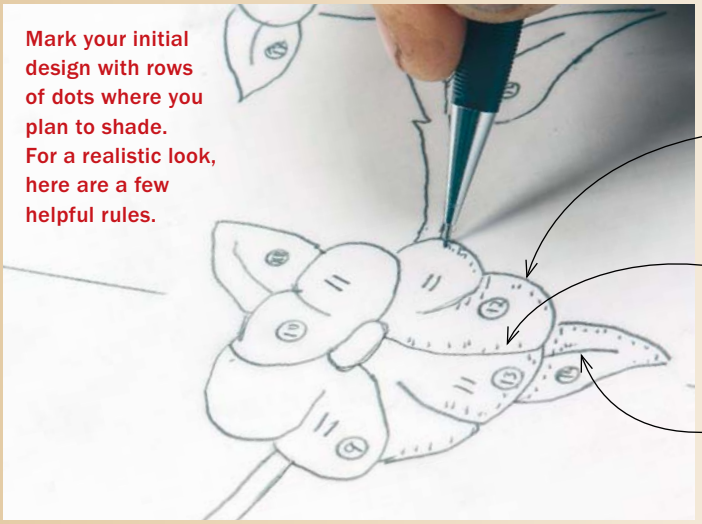
To decide which edges to shade, imagine a light source from the top right or left of an image, projecting down onto the design and creating shadows. Objects that appear to be underneath, or behind, should be shaded accordingly. There is one exception to that rule: When an image has the same type of wood side by side, as in two adjoining flower petals, I shade only one edge or the other, never both, because that would create a dark, unattractive furrow in the picture. But even if I don't shade an edge, I heat each piece a little, so its overall hue doesn't stand out.

How to shade safely

After cutting out all the parts (see "Marquetry, the Italian Way" pp. 74-81), keep each stack of pieces together, including their corresponding "cartoon" drawing piece,

Where to shade

Mark your initial design with rows of dots where you plan to shade. For a realistic look, here are a few helpful rules.



1. In general, shade the lower edges of elements. But shade upper edges, too, if they appear to be behind another element.

2. When two elements of the same color are next to each other, shade one edge or the other, but never both.

3. Shade along the veins in leaves, too.

Photos: Asa Christiana

then pull the right-color piece out of each stack, and place it and the cartoon onto a tray next to the sand-shading pan. The dots on the cartoon are your guide through the sand-shading process, and assembly, too. I also like to have a full copy of the drawing nearby as a reference.

You'll need 100-grit, clean washed silica sand, the crushed kind used for sand blasting or children's sandboxes, not beach sand, which has debris and salt in it. Put an inch of sand in a large, noncoated metal frying pan and heat it over a natural-gas kitchen, propane, or butane-gas flame. An electric hotplate may not get hot enough, though an electric stove might.

Let the sand heat up for about 15 minutes over a medium flame, and then use tweezers or thin tongs to pick up and insert the edge of a light-colored veneer test piece into the sand to see what happens. If the heat is right, the piece will be shaded with a dark-to-light gradated line in 5 to 10 seconds. If the sand is too hot, the wood edge will char and the piece may crumble. If the sand is not hot enough, the shading will take 20 seconds or more, and the whole piece will darken as it shrinks and curls. Note that some of the shading effect will be removed during final finish sanding, so exaggerate the shading a little bit.

Dark or dyed woods will take more heat to shade, and every wood species shades slightly differently, requiring you to change the depth you plunge some pieces into the sand (the deeper, the hotter).

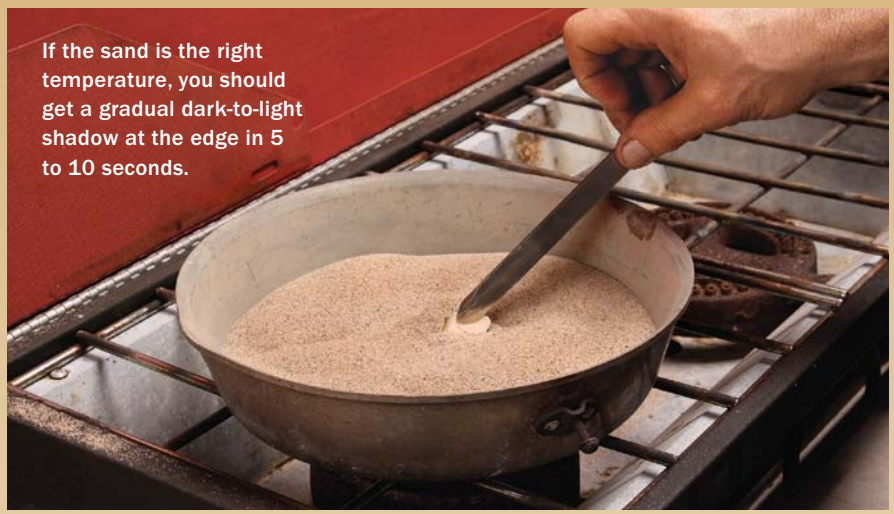
By the way, if you've taken my advice and reinforced your veneer pieces with veneer tape prior to scrollsawing, don't worry: The heat will penetrate through the paper and work just fine.

You'll find there is a sweet spot of heat in the pan, and long pieces can be shaded by moving them through that spot in stages. Also, the inside of a leaf can be shaded along one edge of a vein by bending or breaking the leaf in the middle of the vein cut, using the veneer tape as a hinge. You can then insert the whole leaf at an angle to shade both a middle edge and an outer edge at the same time.

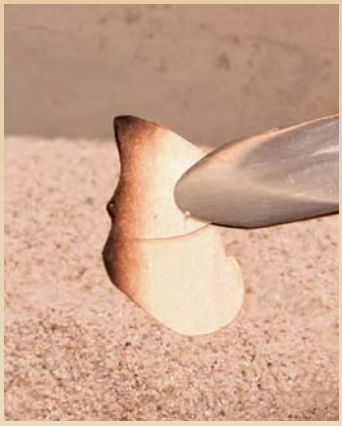
Pieces need to be rehydrated

Shading the veneer pieces will curl and shrink them slightly, making them brittle. So

Dial in the temperature



Try a test piece. *Let the sand heat up for 15 minutes over a medium-to-high flame, and then dip the edge of a light-colored piece into the middle for 5 to 10 seconds.*



Too hot. *A dark, charred line means the sand is too hot.*

Too cool. *If the sand is too cool, shading will take 20 seconds or more and the entire piece will darken, shrink, and curl excessively. (An unheated piece is at right.)*

Just right. *Look for a fine dark line at the edge, with a gentle gradient beside it. There is veneer tape on the show face, so you'll have to flip each piece to check the color. The cardboard pattern piece is at left, showing which edges should be shaded.*

Stay organized. *To keep the small pieces organized, move them onto an offload tray when they are shaded. Always keep their cardboard template pieces with them for reference.*

you need to re-introduce some moisture to make the wood swell back to its original size and become pliable again.

To do this, brush off any sand stuck on the piece and dab its bare face with a moist sponge or wet finger. When the wood starts visibly expanding and becomes pliable again, I place the piece and its cartoon between small 4-in. by 4-in. plywood or MDF cauls to keep them flat and absorb the excess moisture as they dry, which will take 10 to 20 minutes. The cauls stack nicely.

By the way, too much hydration will loosen the veneer tape, over-expand the piece, and create too tight a fit. You definitely don't want pieces to overlap in your marquetry pattern. So you might have to reheat pieces a bit to dry and shrink them, or you'll have to pound the pieces with the butt end of a chisel during assembly to get them to fit. On the other hand, small gaps will fill with glue during the pressing process. As I always say, "Better gaps than laps in marquetry." □

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The double edge trick. *For leaves with a sawn vein down the middle, you can shade both the edge of the leaf and one edge of the vein at the same time. Bend or break the leaf open (the tape will hold it together) and dip it as shown.*

Always rehydrate. *The pieces will shrink a bit as they are shaded. To rehydrate and re-expand them, just dab a bit of water onto the veneer (not the veneer tape) side and place them between pieces of MDF or plywood so they will dry flat.*