

Flat Tiles the Easy Way

by *Laura Reutter*

Keeping tiles flat while drying and firing has often been a source of frustration for clay artists. Over the years, I've read a great deal about sandwiching wet tiles between drywall (sheet rock), flipping them, stacking them, turning them, covering them or weighting them. Why spend countless hours fussing over tiles? It's inefficient and not cost-effective for a professional tilemaker to invest so much time and effort into each individual tile. I've developed a technique that greatly minimizes the amount of handling needed and is almost foolproof for making flat tiles.

The Clay

To begin making flat tiles, you need to use a heavily grogged clay formulated for sculpture or tile—not a plastic throwing clay. I use off-white stoneware from Seattle Pottery Supply called Crystal Stone that matures at cone 6. I tested dozens of clay bodies before I found this one, and of all the cone 6 clays that I tried, this had the least warping and shrink-



Ravenstone Tiles by Laura Reutter are inspired by nature and the Arts & Crafts aesthetics.



age. Newcomb 6 is another clay that some tilemakers here in the Pacific Northwest use and it's available from the Clay Art Center in Tacoma, Washington. I'm sure other pottery suppliers offer similar clays—check your local supplier. The amount of moisture in the clay can also seriously affect the tile-making process. I like my clay on the dry, stiff side as too much water makes it dry slowly and promotes warping. If your clay is too wet, wedge it well or place clay slabs onto a plaster bat or piece of drywall to help stiffen.

The Tools

The supplies you'll need are fairly basic:

- Several pieces of drywall small enough to easily handle, approximately 18–24 inches (make sure to seal all of the edges with duct tape to contain that nasty drywall dust)
- Heavy-duty rolling pin
- Wire tool
- Trimming knife
- A pattern slightly larger than the final size of tile you want (my clay shrinks about 10% so I make my pattern large enough to compensate for that)
- Carpenter's square (optional)
- Two pieces of dowel rod or wooden slats, which are the desired thickness of your tile
- Most importantly, a couple of rigid, wire metal shelf units or storage racks

Note: The racks are used for drying wet tiles. The bars need to be fairly close together to support your tiles fully yet still allow air to circulate between them. Thrift, junk and salvage stores often have these used racks for sale at a fraction of the retail cost.

The Process

To begin, cut 1- to 2-inch-thick slabs off the bag of clay. Wedge the clay as needed, then roll the slab with a sturdy rolling pin in several directions to get the approximate thickness needed.



Most of my tiles are press molded in plaster molds. I take the rolled-out slab and work it into the mold, pressing the clay by hand (figure 1). I then roll firmly over the back of the mold with a heavy wooden rolling pin, pushing the clay down into all the recesses. I trim excess clay from the back of the mold using a monofilament wire tool (figure 2). After one to two hours, the tile is ready to release from the mold (figure 3). I remove it from the mold and place it onto a piece of drywall (figure 4). Once it hits the drywall it should not be lifted or moved, except to press it down gently and make sure the back is in contact with the drywall.

If you don't use molds for your tiles, just roll out clay slabs directly onto a piece of drywall using wooden spacers or dowels beneath the rolling pin for the desired thickness (figure 5). (I prefer ½-inch-thick tiles.) Once



you have rolled out the clay slabs, don't move, lift or turn them. If you do move the clay, its "plastic memory" will kick in and it may warp, bend, or curl during drying and firing. Just trim the slabs in place, cutting them to the desired dimensions using a trimming knife and your pattern (figure 6). If you prefer, you can use a carpenter's square to create square and rectangular tiles. Tip: Acetate, Mylar and corrugated plastic are good pattern materials. After trimming, it is very important to allow the wet tiles to sit on the drywall for 8 to 12 hours (overnight is usually good). Drywall sucks a lot of water out of the clay and the tiles will really stiffen up.

By the next day the tiles should be pretty close to leather hard and stiff enough to handle without flexing. Test a tile to see if it can be picked up safely. At this point, trim and smooth the edges (figure 7). This is not absolutely necessary, but tiles tend to have sharp edges that can cause harm once they are high fired. If you wish to incise or decorate the green tile in any way, now is the time to do it.

There is no need to score the backs of tiles unless you want to. Scoring has nothing to do with the warping or drying process, but it helps the tile adhesive cling to the tile and hold it to the wall or floor during installation. I only score my tiles if I



know the customer wants them for an installation.

Once the tile is trimmed, place it directly onto the rigid metal storage rack (figure 8). Because air circulates on all sides of the tile, it dries very evenly and no warping occurs. No flipping or covering is needed. No weighting or stacking is needed. While your tiles dry, avoid direct sources of warm air like a register vent or portable heater that might dry one area faster than another. You want even drying from top and bottom.

I keep tiles on the rack until they are completely dry and ready to bisque. At 55–60°F, my tiles take about a week to completely dry with no warping. If you want to hurry the drying, use a fan to gently circulate the air in the room; this might dry the tiles in a few days. Drying will be slower in a cool, damp environment.

You should only handle your green

tiles about three times: once to roll out and cut the clay; once to smooth the edges and place on a drying rack; and once to put it in a kiln for your bisque firing.

Firing

I use a programmable electric kiln for most of my work, and fire tiles flat on the kiln shelf both for bisque and glaze firing. I glaze fire to Cone 5 or 6 after bisque firing to Cone 05. During the bisque, I generally stack tiles two deep (figure 9). You might be able to stack them three deep if your tiles are on the thin side. Usually I don't make stacks higher than 1 inch. My kiln posts are 2 inches high to maximize the number of shelves I can get into the kiln. A slow preheat or warm-up is essential to allow all the moisture to escape the stacked tiles. I have made big and small tiles by the thousands using this process and, perhaps, have had a warped tile once in every hundred.

Construction Notes for a Drying Rack

I built my tile-drying rack from shelf units made of rigid metal rod. Each shelf unit measures 12×36 inches. Two units are supported side by side on a wooden frame with legs that hold them in the air. The wooden support system is made from 2×4s and 1×2s that are screwed together. The total drying surface from these two racks is 24×36 inches long and holds quite a few tiles.

It is important to have the racks well off the ground to allow plenty of air to circulate. Because I make lots of tiles, I bought enough racks to have several levels available to dry tiles, all supported by the wooden frame. (You could also improvise or support the racks between two chairs if you don't want to build a permanent drying rack.)