

# waste into want

by Deb Schwartzkopf

At Rat City Studios we want to use our waste clay and glaze, rather than throwing it away. Our system blends these two materials together to create beautiful, durable paver bricks inspired by our honey bees.

## Making The Brick Molds

We use a hexagonal wooden template to create the original clay paver models. After the original is leather hard we cast it in plaster. Once the plaster is completely dry and cured, our molds are ready to be used over and over! Further information on the molding process is available on our blog. Each blank is creatively modeled by the crew at Rat City Studios.

## Paver Brick Mix

We store waste clay and glaze separately in labeled five-gallon buckets (we find the labeling is very helpful). As the materials settle, we pour off the water. Once the buckets are full, we blunge them individually into a gloppy, thick consistency with a drill. Then we blend the slurry clay and waste glaze at a 1:1 ratio. A clean bucket is filled with half clay waste and half glaze waste. We find measuring by eye is close enough. The paver brick mixture is then poured into a plaster trough to dry out and thicken up to the right consistency for wedging, but still a little on the softer side as it will be easier to press into the molds.

Once the paver mix is dehydrated enough, it is drawn out of the trough, wedged lightly, bagged in plastic storage bags (moist clay bags are perfect), and stored until we have about 10 full bags.

## Pressing the Pavers

When we accumulate enough paver mix to press tiles, we blend different batches together in a second round of thorough wedging. This helps even out any inconsistencies. Some batches are wetter, and it helps balance differences in dryness. Some batches might have

a composition that melts at a higher temperature. Each batch of paver mix is different as the glaze waste changes with each bucket. Ideally, we make a test of each large batch and fire it before firing the paver tiles. That way we know the melt is in a good place. All the glazes that we recycle are cone 6. This affects the melt of the material.

The pavers are about 1 inch thick and 8½ inches wide. If they are much thicker than that, we have found that the loss rate is very high, as fewer whole bricks make it through the process. The pavers need to be completely dry before firing. We stack the kiln with the pavers on end, like files in a cabinet, then once fire the paver bricks to cone 1, holding the kiln just below the boiling point for water (around 180°F) for 5–6 hours, and then ramp up 100°F/hour to 200°F and hold again for 2–3 hours. The next ramp increases the temperature at a rate of about 200°F/hour until it reaches cone 1. This seems to be a good firing schedule to minimize losses. The pavers have stood up to the elements outside for several winters now. It is good to note that in Seattle we have fairly mild winters, but it reaches below freezing occasionally and the bricks are all still whole, with no freeze/thaw cracking.

## Waste Clay Sources

- Excess reclaim—more clay than we know what to do with from classes, experiments, events, etc.
- Hand-wash water buckets—the sludge at the bottom of your wash water buckets or sink.
- Clay coated with slip or underglaze that we would not want in the nice reclaimed clay.
- **Warning:** Do not use plaster or clay with plaster in it.



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1 Eliane Medina, a Rat City Studios assistant, carving a paver model. 2 Jordan Jones, a visiting artist at Rat City Studios, carving a paver model. 3 The hexagonal wooden template that is used to create the original clay paver models, plaster molds of the carved paver models, and several pavers that were made from clay and glaze waste.



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4 Clay and glaze waste are stored separately and then mixed together at a 1:1 ration by volume to create the paver mix. The paver mix is then pressed into the plaster molds, dried completely, and then fired stacked on their ends to cone 1. 5 The fired pavers. Every batch is slightly different depending on the composition of the clay and glaze waste that is used.

### Waste Glaze Sources:

- Miss-mixed glazes and abandoned glazes
- Wash-water buckets in the glazing area or sink
- Spray booth
- Unwanted test tile batches

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**the author** *Deborah Schwartzkopf, a Seattle-based studio potter and instructor runs Rat City Studios. Her aim is to build the community of artists working in clay by connecting people through social and educational events. Emerging artists join in a year-long studio assistant position, trading their time for studio space. Further community-building endeavors include weekly clay classes, workshops, and seminars on professional development as an artist. Learn more at <http://ratcitystudios.com>, and on Instagram @debspottery and @ratcitystudios.*

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cone 6 glazes

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