

## Casting Tips: The Experts Weigh In

*As every caster knows, a successful casting is the result of many tasks done right, from wax carving to investing to burnout and breakout. In this Tech Sheet, we've asked several long-time MJSA Journal contributors to offer their tricks to ensure a successful, profitable casting operation.*

### Gearing Up: Wax Carving Tools

According to Charles Lewton-Brain, a trip to the dollar store can result in all sorts of tools that can work just fine for carving waxes. "One of my favorite sources for wax burs is old gears (1), such as you might find by knocking apart an old alarm clock," Lewton-Brain says. "Even if they are brass, they will cut wax just fine. And frequently a clock gear is already mounted on a rod, which lets you place it immediately in your flexible-shaft handpiece—you don't even have to buy a screw mandrel to use it!" *Charles Lewton-Brain is an educator, author, and metalsmith, as well as the proprietor of Brain Press in Calgary, Alberta, Canada.*



### Tubes of Plenty: Homemade Oven Grates

Manufacturers of electric burnout ovens usually recommend that a grate be placed in the bottom of the oven's chamber; this raises the flasks, enables air to circulate better, and hopefully leads to a cleaner burnout. Daniel Grandi used to

purchase several of these grates at a time: "Within three months, a grate would have completely deteriorated," he says. "The costs would add up." Finally, he decided to do something about it. He purchased several square stainless-steel tubes, about one inch in diameter, and cut them into 10 pieces that he placed along the bottom of the oven chamber (2). "This works just fine for burnouts," he says, "and it's much cheaper. I haven't had to replace any of the stainless steel tubing since I started using it three years ago." (Grandi also notes that, prior to installing the tubes, casters should vacuum the inside of the oven chamber, then periodically clean it out thereafter to ensure any deteriorating metal from the flasks is removed.) *Daniel Grandi is the owner of Racecar Jewelry Co., a contract casting house in Cranston, Rhode Island, that casts finished jewelry for designers.*

### Solid Investments: How to Prevent Cracking

Grandi offers another suggestion, this one to quickly move invested flasks to the drying table, thus avoiding cracking. His shop usually invests six 4 inch by 7 inch flasks at one time—and when they're ready to be moved off the investing table for drying, he uses a heavy aluminum pizza pan to whisk them away. "I cut away an area of the pan where the pipe goes through the top of the investing table," he says. "We put all six flasks on the pizza pan, and when the mix is ready to pour, we move the pizza pan with all six flasks onto the table." Time from investing table to drying table: five seconds.

### Dip It! Carving: Secure Wax Settings

When carving wax settings, Kate Wolf finds that it can be difficult to get a snug fit for certain stones, such as a drusy with a convex back. When confronted with such challenges, she starts out the model making process by dipping the stone in molten carving wax.



Since melting wax directly on a stove or hot plate can be extremely dangerous, Wolf prefers to use an electric wax-melting tray. Once the wax is molten, she attaches either a dop stick or Wolf's Wicked Sticky Positioning Wax to the stone and gives it a quick dip (3). Or, if she's working with a pearl or a bead that has a hole in it, she'll insert a toothpick into the hole and use that as a handle (4).



Molten wax shrinks as it solidifies—and the finished wax will shrink even more as it is cast. Wolf compensates for this by going over all of the inside surfaces with carving tools, to make sure the stone fits in the wax while still having a bit of wiggle room (5). "After the fit is

correct, I open the back of the setting and finish up the outside of the piece, using a spring gauge to measure the wall thickness—1 mm is usually ideal," she says. The final result: a secure setting (6). *Kate Wolf is an educator and the owner of Wolf Tools in Portland, Maine, [www.katewolfdesigns.com](http://www.katewolfdesigns.com).*



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