How to Build a Glaze Spray Booth

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Source: http://blog.richardaerni.com/14. November 2008 @ 20:06

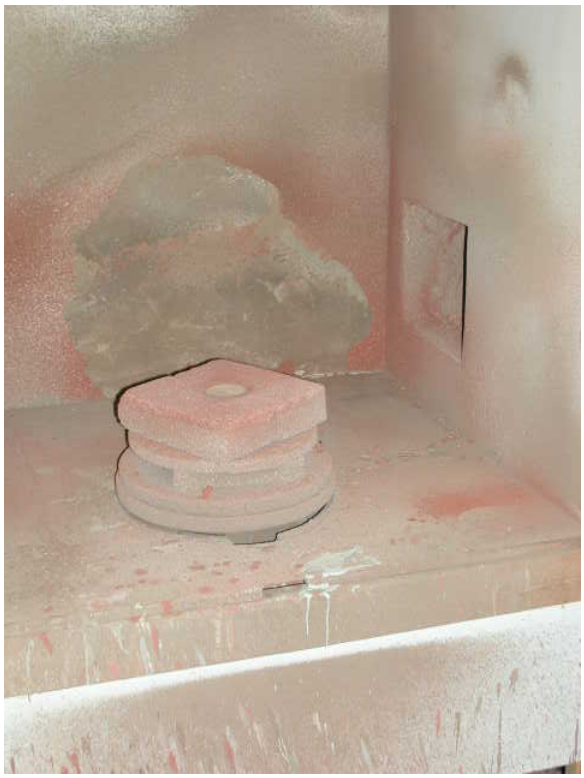
I built this spray booth in about a full day. I'd built a couple more in earlier decades, so I had the basic concept down. If you exclude the cost of the old wheel, I think it cost me a total of about $125.00 (US). The prior booth I built was even cheaper and it lasted 16 years.

I chose to use a squirrel cage blower because it was free. I take a piece of steel wool and clean the fins of glaze about every other kiln load, as the glaze dust can build up and decrease the suction. It takes about 5 minutes to do this. I don't put a filter in front of the fan as it decreases suction significantly. If you chose to, you could run a waterfall baffle system through which the spray would pass, before it exhausted, but that would require more complicated construction and more expensive venting equipment. I did not choose to use an in-line inducer fan because of the noise factor.

This booth really works well. I generally spray across the pot, towards the exit fan, so that the booth exhausts quickly and efficiently. When I did the math, I found that the air is theoretically exchanged completely every two seconds. There is little if any blowback from the spray, so it's operation does not seem overly hazardous to one's respiratory health.

1. Front View

Basic 2 x 4 construction, with drywall backing and cheapest glossy shower board inside glued to the drywall. The turntable is an old Brent wheel.



2. <u>Interior: After a Spray Session</u>

This view shows the inside of the booth floor, which is comprised of two boards that slide in from the front, over the wheel body, but under the wheel head. The exit flue for the spray exhaust is in the back bottom right.

3. <u>Interior: One Floorboard Removed</u>

This shows how the floor easily removes. The floor is made of simple formica-covered particleboard, scavenged from a cabinet shop.

4. <u>Interior: Floorboards Removed</u>

This shows the works under the floorboards. The Brent wheel is mounted on top of cinder blocks to bring the working surface to a comfortable level. Why use a potter's wheel for the turntable? It has a foot pedal, which leaves both hands free to spray, while maintaining the speed of rotation. This also keeps the user from having to reach into the spray booth to twirl the turntable, a major inconvenience, not to mention the hazard of breathing in the spray.

5. <u>Exterior Detail: Blower</u>

The squirrel-cage blower and fan motor were scavenged from an old household forced air furnace that was discarded from an upgrade. I blocked off the intake from the outside surface of the blower, so that all exhaust comes from the inside of the spray booth. To increase suction, I hang a baffle down from the top front of the booth when not spraying very large work.

6. Exterior Side View: Blower

Another view, showing how the fan is mounted on a table, and is screwed to several 4 x 4 members. I have simply sealed the joint between the booth and the fan using expandable spray insulation.

7. Outside Venting

A view of the ducting exhausted to the outside. To bring the air through the concrete block wall, I used a rectangular-to-round duct adapter piece found at Home Depot, and attached a length of 6 inch diameter ducting through a hole in the wall. The hole was hammered and chiselled, again sealed with expandable foam insulation). I had a galvanized sheet metal vent deflector custom made to cover over the exit and deflect the spray downward ($50). I do not screen the exhaust, as I'm sending it out into the freight yard of the CSX railroad depot, and they send lots of other stuff back my way. For those of you in "green" areas, my old spray booth in the country exhausted similarly over a grassy patch, which never showed any ill effects from the glaze spray after 16 years of glazing.

8. Exterior: Roof Level

This is taken from roof level. I roofed the booth with drywall, but also installed a standard 4-foot long fluorescent light. This gives me all the light I need for glazing, night or day.

9. Exterior: Angled View From Top

This image shows the top of the booth, including the incredibly complex carpentry required for its construction, as well as the storage place for some random scraps of M Board