The Kiln Corner—
Electric Circuit Breakers

by Arnold Howard

Though Arnold Howard works for Paragon Industries, L.P., the information here applies to all brands of glass kilns. Feel free to send him questions for this column no matter what brand of kiln you own.

My wall outlet and kiln plug overheated and must be replaced. Why didn't the circuit breaker shut off the power before the outlet overheated?

The circuit breaker shuts off the power when the amount of amperage running through the circuit wiring is too high. For instance, the breaker will shut off when it detects a short circuit. But the breaker cannot detect a loose connection that causes a wall outlet to burn up unless the source of heat in the circuit is close to the breaker box.

Is there a convenient way to shut off the power to a kiln that is direct-wired?

Kilns should be disconnected from the power when not in use. The easiest way to do this is to install an electric shutoff box near the kiln. (The shutoff is not needed for small 120-volt kilns.) The shutoff box disconnects the power without having to unplug the kiln or to flip a breaker at the breaker box. The shutoff box is necessary for direct-wired kilns.

The shutoff box, also called a disconnect box, mounts on the wall near the kiln and is wired into the circuit. It should be installed between the kiln and the door to the room. We recommend the type of disconnect box that has a handle on the outside. Merely pull down the handle to shut off the power. The box must be rated for outdoors if you mount it outside, such as under a covered porch. Having an electric shutoff box near the kiln may help you to obtain insurance coverage for your kiln.

How does one check an electrical wall outlet before plugging in a new kiln?

Small 120-volt kilns (or 100, 110, 115, 127, depending on the country where you live) can trip a circuit breaker if the circuit is also running other appliances at the same time. Here is a quick way to test a wall outlet with a lamp. (This information does not apply to large studio kilns, which have one outlet for the entire circuit.)

• Check the kiln catalog or your dealer to find the recommended circuit breaker size for your kiln. For a 120-volt kiln, the circuit breaker recommended will usually be 15 or 20 amps.

• Plug a lamp into the wall outlet that you intend to use for your kiln. Turn off the computers in your house. Then have someone with a cell phone go to the circuit breaker box and turn off and then on each 120-volt circuit, one at a time. (The breaker box is usually in the basement, a closet, or the garage.)

Find the circuit breaker for your kiln and label the breaker. If you ever work on a direct-wired kiln, shut off the breaker and tape a note to the breaker box door: "Working on kiln."

• When the lamp goes out, tell your assistant by cell phone. The circuit amperage is stamped on the outside of each circuit breaker. Verify that the breaker is the correct amperage for your kiln. If the breaker is 15 amps but your kiln requires a 20 amp breaker, for instance, then find a different circuit for your kiln.

• You will find a label inside the breaker box with a space for each circuit breaker. Once you have found a circuit for your kiln, pencil in "kiln" on the label for that breaker.

• With the breaker still turned off, plug the lamp into each nearby wall outlet where you will fire your kiln. Check outlets that are not only in the same room but also on the other side of the wall from the outlet you will use for your kiln. Testing with a lamp will show you which outlets are connected to the circuit you will use for your kiln. While the kiln fires, make sure any appliances powered by that circuit are turned off.

Arnold Howard writes instruction manuals and advertisements for Paragon Industries, L.P. His hobbies are glass fusing and karate. He also enjoys studying history and watching classic movies. You can reach Arnold at ahoward@paragonweb.com with questions for future columns. Visit www.paragonweb.com to sign up for his kiln newsletter.