

Ventilation and Safe Practice with the use of Electric Kilns

With the increase in use of the kiln in the domestic environment, we are being asked questions as to where best place a kiln and how to create effective ventilation. The below is a helpful guide so you can *fire* safely and what you might have to prepare for.

Fumes and gases from Kilns can be hazardous in certain environments, for example if you fire a lot, with a high concentration of wares, using glazes that include toxic ingredients, fire in environments that have limited airflow or if you work near the kiln when firing. All these would be a greater risk to your health. You can lessen the risk, if you fire occasionally, with small amounts, using safer glazes and clay bodies; firing at times when you are not in the same environment and doing so in a well-ventilated room.

The General advice on ventilation we give to the hobby user is to consider good airflow. Movement of air is what is required. You need **cold air** to come into the room from a low point and the **warm humid air** to exit at a high point. This does not usually present a problem if you intend to site the kiln in a garage or out-building where drafts are common place and have ill-fitting windows or gaps under doors which help with the ventilation. But if your room is modern and airtight then you will need to consider the use of airbricks and with poor air circulation, powered *extraction*.

With Sheds and studios in the garden, which have become a common place to site kilns. Ventilation grilles or covers are easy to install, but think about the placement of the air vents and extraction holes. Warm humid air will travel upward therefore a small chimney in the roof above the kiln would be advantageous with a cowling on top. A place for cool air to enter could be the shaded area of the shed, where the air is cool to start with. Consider the **insulation**. Modern kilns have sensors that can tell when the environment is heating up around them and can switch off if a room too hot, so insulate within from the heat outside.

We have talked to people wanting to put kilns in bedrooms and basements where air flow might be a problem. This is not an ideal place to site a kiln but if you have no choice then I would strongly advise creating movement of air by means of powered extraction. The popular top loader model has as part of the accessories a metal exhaust flue adaptor. Upon this you can purchase flexible ducting (which we sell) and this can direct fumes upward and toward a ventilation hole or extraction unit. The ideal length is 1 or 2 meters however as the warm humid fumes cool, they will condensate within the tube, so the shorter and straight the better.

Where to put a kiln?

With a new or modern kiln, you can position a kiln with at least 30 cm from a wall. If you have limited space, then all the kilns we supply can have additional castors which will allow the pulling out into position when firing and returning safe when cool. In small environments or with low ceilings avoid the practice of lifting kiln lids to advance cooling as a lot of heat would escape moving upward and potentially causing a fire. Do not lift the lid until the temperature inside the kiln is the same as the outside. The heat escaping from kilns that we sell is minimal, some worry that floors will become hot. We have found this not to be the case but we do advise protection of surfaces, say a flooring which may become discoloured after a kiln is in one position for many years.



Further reading and advice.

If you are on the way to becoming more productive you should take the time to read the references listed below. Remember as the risks start to increase and you will need to plan for the kiln along with ventilation and placement before you commit yourself.

A good book on kilns, [The Electric Kiln by Harry Fraser A&C Black ISBN 0-7136-3745-5](#)

There is a **HSE** document also with good advice for schools and institutions... with other links at the bottom for gas kilns <http://www.hse.gov.uk/non-metallic-minerals/kilns-in-schools.htm>

For the really technically minded there was a study done on the emissions from the kiln which would explain the differences between bisque and glaze firings with vented and non-vented kilns, research on-line, [Parker C Reist, Chapel Hill, North Carolina USA - ceramics](#)

Finally, if you are in any doubt as to the safety and of the use of your kiln, please do call us here at Hot Clay [01934863040](tel:01934863040) or contact via info@hot-clay.co.uk