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The following is excerpted from my book, *Clay: A Studio Handbook*.

Loading a Glaze-Firing

When loading normal gas and electric glaze firings, leave about 1/8" clearance between the wares themselves, the kiln walls, and the kiln shelf above. Except in salt, soda, and wood-firing, greater clearance is a waste of space. In midrange and highfire glaze-firing the wares shrink considerably as they vitrify, and thus there will be more clearance by the time the glazes are fluid. In salt, soda, and wood-firing, placement of wares and distance between determines how they are affected by vapors and ash. In these firing processes, consider movement of flames and vapors through the kiln when placing the wares.

In any glaze firing, make sure that the posts on the first layer of wares (supporting the second layer of shelves) are at least 4" tall, even if the first layer is just plates. In many kilns the bottom tends to fire cooler, far more so with poor air circulation or heat radiation due to inadequate shelf spacing. This is especially true of electric kilns that do not have heating elements in the floor.

When loading a glaze-firing in top-loader electrics, avoid placing the highest shelf within six inches of the lid. The lid acts as a heat-sink and absorbs energy. If the top shelf is any closer to the lid, the wares on that shelf will not reach temperature.

At any glaze-firing temperature, wide, low forms like slab panels, tiles, bowls, or plates must be fired on very flat shelves and the entire foot of a bowl or plate must be supported on the shelf. The rim of a plate or platter and the body of a bowl can extend beyond the edge of the shelf if there is room in the kiln, but the foot must be entirely supported. With vertical sculptural forms and vessels it does not matter if the foot hangs over the edge slightly.

Normally we use wadding only in salt, soda, and woodfiring, but there are situations where it can be useful in reduction and oxidation firing. If you have reason to fire a glaze that might run badly, there are two precautions. First, fire the piece on a waster slab or a saucer to catch the running glaze, and place the piece on wads atop the waster slab or saucer to maximize chances of salvaging the piece if the glaze does run badly. A waster slab is just a throwaway slab used to temporarily support a piece in the firing, and it can be used again if it survives the firing. Never use plastic clay for wadding in a glaze firing, because it will blow up in the rapid temperature rise.

Remember that a full kiln fires well, in both gas and electric kilns. If you must fire only a partial load, use taller kiln furniture than necessary so that the set fills the kiln. This will give a more efficient, even firing. If you ever need to glaze-fire only a few things in an otherwise empty kiln, place three or four high-duty hard-brick around the wares. These will absorb a tremendous amount of heat, slowing down both the firing and cooling ramps so that the glaze matures properly, and pinholes and bubbles have a chance to heal.

NOTE: Never place anything on top of an electric kiln while it is glaze-firing, as the slightest bumping can cause small refractory particles to sift down from the lid onto the wares below.