

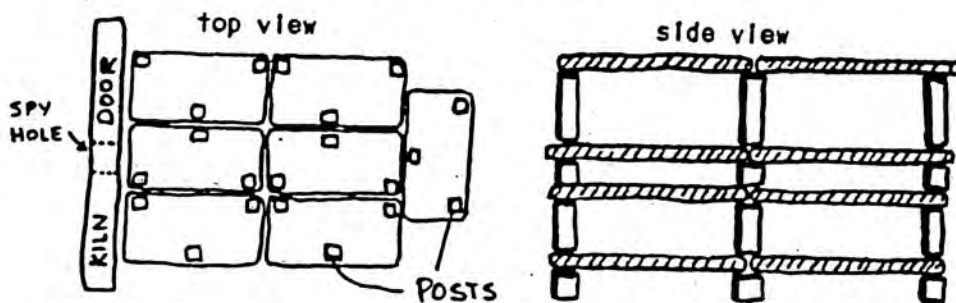
## STACKING AND LOADING A KILN

### Major Considerations

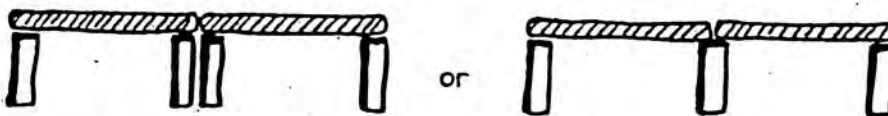
1. Stability
2. Circulation
3. Protection of equipment and safety
4. Protection of work
5. Cone packs

#### 1. Stability

- a. Posts should be in a tripod configuration. This offers more stability and reduces shelf warping.



- b. Posts must always and only be placed over posts on the shelf below it. This creates a tight vertical line of support.
- c. Shelves may share a post, or posts may be placed adjacently, whichever is more stable.



- d. Start stacking, with the lower levels (shorter pieces) going on the bottom and the taller things on top.
- e. If the kiln shelf is warped, use wadding to support and stabilize it. Make sure the wadding is secure, even, and at shelf level. The wadding for bisque and reduction (but not salt!) is as follows:  
1 part fire clay to 1 part silica sand.



- f. Shelves should never wobble!

#### 2. Circulation

- a. It's very important that the kiln should be loaded as evenly as possible.
- b. It is generally best to start with a 6" post on the first level, then go to shorter, i.e., 2" for plates or slabs, on the second level.

### 3. Protection of Equipment and Safety

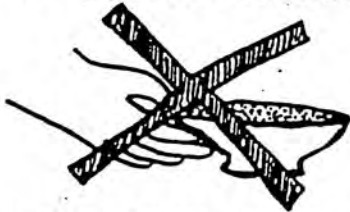
- a. Kiln shelves must be painted with kiln wash or dusted with silica/flint (wear a mask!) for any glaze firing. This is not necessary for bisque firing, unless there is lowfire glazeware included. Make sure the bottom, sides, and the one-quarter inch (1/4") bordering the edges of the top of the shelves are clean.



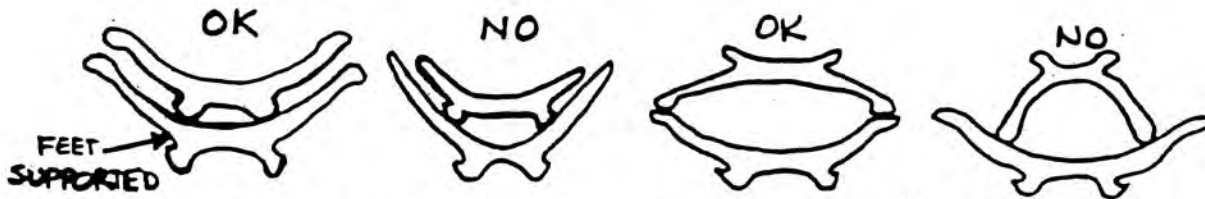
- b. Never use a shelf or post that has glaze melted onto it. It will burn in and ruin the shelf.
- c. If using a shelf with a crack, make sure it is well supported with a post. Try using it higher up in the stacking.
- d. Never change the bag wall (bricks inside the kiln), or touch the burners inside the kiln.
- e. CLEAN UPI Shelves should be cleaned and neatly stacked. Posts should be cleaned and sorted.

### 4. Protection of Work

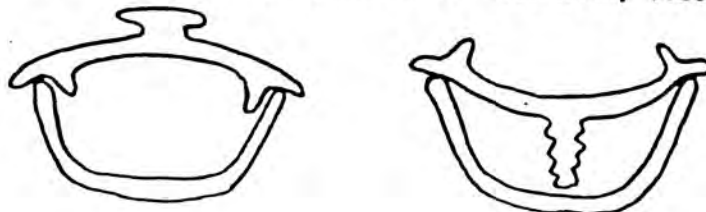
- a. Never put a pot that is not dry into the kiln. If fired too rapidly, the water will turn into steam inside the clay and the pieces will explode. Remember, you are not only risking the wet piece, but also the pieces around it.
- b. Handle greenware carefully. It is very fragile.



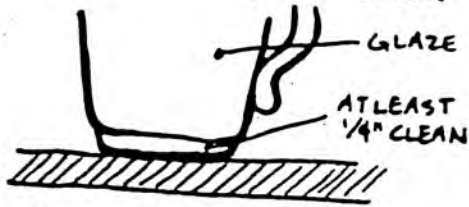
- c. Greenware may be loaded touching and tightly packed. When stacking, make sure that the clay is supported and not overly stressed. Stack the lighter pieces on the heavier ones.



Always fire lids in place. In the case of tall nobs, lids may be inverted.



- d. When loading glazed bisque ware, make sure it is absolutely free of glaze on the bottom and one quarter inch (1/4") up the sides (or higher for runny glazes). Works should not be touching each other, the posts, or the shelves. Lids and pots should be clean of glaze where they touch, or they will stick.



## 5. Cone Packs

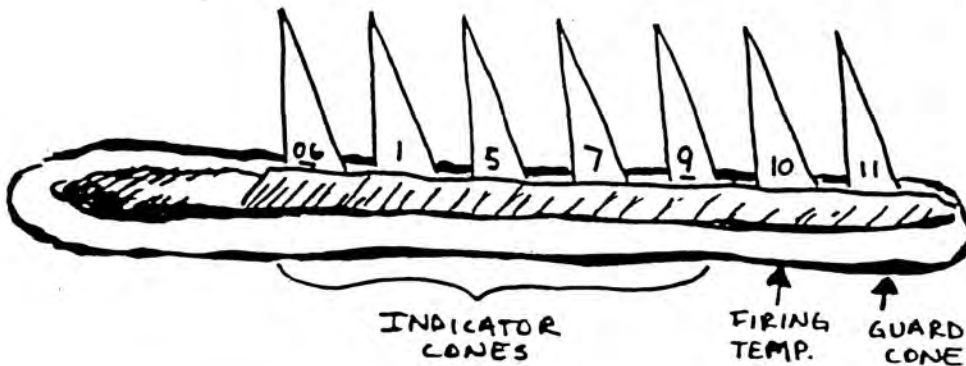
Bisque firings can be done by visually judging the color inside the kiln, however, beginners will want to use cone packs. Bisque temperature affects glaze absorption and durability of bisque ware, and ranges from  $\Delta 010$  to  $\Delta 04$ . Clay bodies with larger particle size, i.e., porcelain, should be bisqued at a higher temperature ( $\Delta 04$ ).

- Cone packs should be dry, so make them ahead of time.
- Poking holes, or wedging silica sand or vermiculite into clay packs, helps speed the drying, and makes packs less likely to explode.
- Place the cones in clay, leaning them towards the lowest temperature cone.



lowfire cone pack

- Lower temperature cones will melt completely, so build a "reservoir and moat" around them.
- When stacking the kiln, make sure you plan so that the kiln packs will be visible through the spy holes. They should be placed on a shelf, not in the spy hole.
- Always use at least one indicator cone (which will melt before the cone to which you are firing), and a guard cone (which is one cone hotter).



highfire cone pack