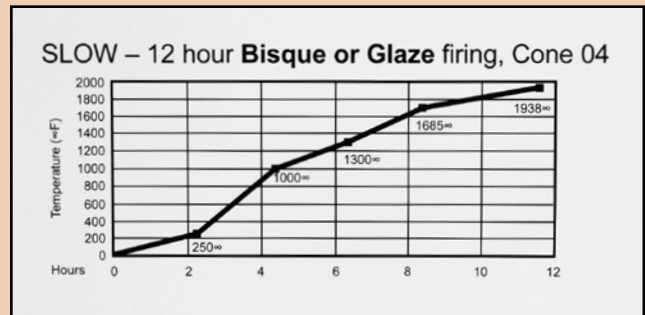


The Importance of the Bisque

Why do we bisque? (1) It allows the clay to be hard and stable enough to handle when applying glazes; (2) it changes the absorbency of the surface of the clay for glazes to be applied; and (3) between 400°–1200° F, it burns out organic materials and carbon, removing gases that can cause glaze defects such as pin holing on the surface of the glaze.

It is important to do a slow bisque to remove all the gases. Most kiln firing controllers have a 12-hour slow firing program. If you bisque too quickly you may trap gases in the clay that may cause pin holing when you glaze.



Slow-firing chart.

DAVID'S BISQUE TIPS

1. Make sure the clay pieces created have fairly equal thickness all around ($\frac{3}{8}$ of an inch is good). Thick and thin pieces have a hard time drying evenly and are more prone



to crack due to the thin parts shrinking faster than the thicker parts.

2. Are the pieces dry that you are loading in the kiln? Touch the piece to your cheek if it feels cold it still has moisture in it.



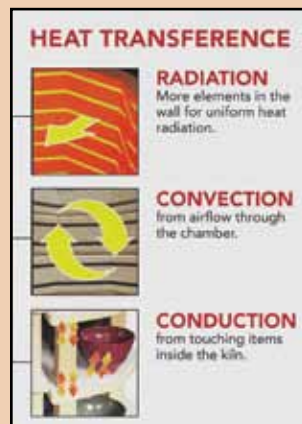
3. Know what your clay looks like through the drying process.

4. Water turns to steam at 212° F. This is an important temperature. Newer kilns have a preheat in the controller that will take the kiln up to around 180° F (Under 212° F). You can dry out the pieces before firing to the desired cone/temp.

Important Temperatures You Should Know

- Water becomes steam: 212° F
- Chemically combined water driven off: 940° F
- Quartz inversion: 1058° F
- Organic/Carbon Burnout: 570–1470° F
- Clay particles begin to fuse together: 1600° Sintering

5. Read the instructions on the clay you're using. Most have a suggested bisque cone.



6. Place tall pieces in the middle of the kiln and shorter ones closer to the elements so the heat can transfer to the center of the kiln easily for a more even firing.



7. Place a shelf one inch above the base of the kiln and stagger the shelves about an inch if possible. This helps with heat transfer for a more even firing.