Using the Three Cone System

When the cone tip is even with the top of the cone base, it is time to shut off the kiln. If the Guard Cone bends, the desired heatwork has been exceeded.

Using the Three Cone System to Evaluating Kiln Performance

Most kilns have temperature differences from top to bottom. The amount of difference depends on:
- design of the kiln
- age of the heating elements
- load distribution in the kiln
- cone number being used

Usually, there will be a greater temperature difference at lower cone numbers than at higher ones. Placing a set of cones on each shelf during various firings allows you to determine the heating uniformity of your kiln for the materials you fire.

After firing, observe the cones and evaluate the heat distribution in the kiln. If only the guide cone is bent, there is less heat on that shelf. If the guard cone is bent, there is more heat on that shelf.

If you do find a difference, the heating uniformity can be improved by changing the kiln loading, adjusting switching or adding a downdraft vent system.

Want to learn more?

Read more about The Three Cone System in the Orton Firing Line and Technical Tips publications. Members of the Orton Center For Firing receive these publications at no charge. Single copies are available to non-members at a per issue rate.

For information on Orton products, see your Orton dealer or distributor.

For information on the Center For Firing or publications, contact Orton Center For Firing, PO Box 2760, Westerville OH 43086, 614-895-2663