

New Printer Technology for Ceramics

About the new pigments.

With our older printing technology pigments were mixed with fluxes to melt at specific temperatures. These older pigment/flux blends limited the density of our decals because the pigment percentage was not 100% since portion of the pigment was flux.

Our new pigments are now 100% pigment and create much richer and denser decals. As flux free pigments there is an incredible firing range from 1320F to 2300F with no loss of color including brilliant reds and yellows.

About Fusing, Firing and Surfaces.

Flux free pigments require a source of flux to fuse to ceramics.

There are two ways to fuse flux free pigments. One is to use our flux covercoat and the second is to use the fluxes in the glaze and a higher firing temperature to achieve full fusion.

Both options have opportunities and challenges for achieving your aesthetic result.

New Blue Flux Covercoat

Our new blue flux covercoat is very compatible with most ceramic glazes.

It is required to achieve full fusion at similar temperatures as our older pigments.

For ceramic the temperature range is the same starting a 1650F. It is also stable up to 1820F.

Non-Flux Covercoat Glaze Fusion.

Depending on your glaze, you may need to fire above 1820F or Cone 06 to achieve full fusion when using nonflux covercoat.

This is perhaps the most exciting aspect for using our new technology and flux free pigments.

It is now possible to achieve a full range of surfaces from rich full fused satin matts to high gloss by exploring glaze firing temperatures.

2023 Ceramic Decal Firing Recommendations.

Firing Range Temperatures of 1320F - 2300F are based on your specific ceramic firing temperatures & glazes; and whether you use BlueFlux or nonflux covercoat. Previous page describes the difference.

Ceramic Decal FIRING SCHEDULE:

Seg 1	50F per hr.	200F	Hold 2hr.	Vented .
Seg 2	200F per hr.	800F	Hold 15min.	Vented .
Seg 3	250F per hr.	1200F		No Vents.
Seg 4	275F per hr.	1320F-2300F	Off.	

The listed schedule time is purposefully pretty conservative. As you come to understand your kiln and your materials you can adjust times, play with temp ranges to slightly expedite the firing times.

VENTING: below we explain two ways of venting.....

1. Passive Kiln Venting

Most kilns have peep holes or flaps that allow openings in the kiln.

For passive venting peep holes or flap are left open during Segments 1 and 2 that say Vented.

Water and the organic cover-coat holding the image together during transfer must slowly burn out and exit the kiln. Slightly crack the lid or door of the kiln may also provide additional venting.

It is fine to have peep holes or flap open and the lid and door slightly cracked for Segments 1 and 2 up to 800F.

After venting is complete plug the peeps, close the flaps, shut the door or lid at the beginning of Segment 3.

This requires that you are there to close the vents.

The Kiln Room must be well vented to remove fumes exiting the kiln.

2. Internal Down Draft Kiln Vent

There are several companies that make down-draft kiln venting kits to install on your kiln. Small holes are drilled in the lid and floor of the kiln and a metal cup is mounted outside the kiln under the floor below the floor holes. Heat treated rubber hose is attached to the metal cup and a small fan blows kiln exhaust out through the wall.

With new kiln you can program the vents to come on during Segments 1 and 2 when venting is required.

For older kiln you can turn the venting on at the beginning of the firing and just leave it on for the entire firing.

We recommend this type of venting. The interior of the kiln always has a flow of fresh air, you don't have to be there to close passive vents and all fumes are exhausted directly outside and do not enter your kiln room.

Good venting is required for health and safety and produces the best color results with our decals.