

FIRING ADVICE

TIPS

- Recommendations for Seeley Slip for SFGW to Bisque stage:
Cone 6 - Colored, Bone & Lady White
Cone 7 - Other white porcelains
- Make sure you don't "crowd" the kiln. There needs to be enough space between your pieces to ensure an even heat when firing. When adding another shelf, make sure there is at least one heating element between shelves and/or the kiln lid to provide adequate heating of each section.
- Underfired – when a piece is fired to a temperature not high enough to properly mature the clay body it will appear chalky, have a porous feel, and color "off". Black specks can also appear on porcelain.
- Overfiring - can cause blistering and a shiny finish.
- If it's necessary to "re-fire" your bisque due to an under-fire, be sure to re-fire to one cone lower in temperature than the bisque was originally fired. For example, if you first fired at Cone 6 then re-fire at Cone 5.
- Place doll heads with their faces turned toward the center of the kiln.

FIRING SUPPORTS

There are three different "support" materials you can use in your kiln: porcelain prop, hydrated alumina and firing sand. All three have their appropriate uses.

- Hydrated (or Tabular) Alumina: Alumina, when placed on a kiln shelf (about 1/8" thick), acts as a lubricant which keeps the shrinking porcelain from "grabbing" the shelf during firing and so prevents warpage and cracking. If you experience a "glazing" effect on porcelain bisque, this can be eliminated if you pre-fire the alumina by spreading it out on kiln shelves and firing it by itself to a cone 6. Reusable.
- Firing Sand: Also called Silica Sand. Firing Sand is composed of smooth, round grains which act like tiny ball-bearings that allow the porcelain to move freely while shrinking with no pitting or scratching. This does not have to be pre-fired. Reusable.
- Both Hydrated Alumina and Firing Sand are insulating materials; if one buries part of a neck, arms, or head in the materials, the heat necessary to mature the porcelain will not get through. That buried portion of the porcelain will be underfired. A little goes a long way – a one-eighth inch coating on the kiln shelf is sufficient. A half-inch is usually all that is necessary to create a "nest" or pile to hold a dome head.
- Porcelain prop: Loose prop looks much like cotton, composed of alumino silicate fiber, which may be loosely molded to support heads and limbs during firing. Prop is also an insulating material, which means that if it is packed tightly, it will cause an underfire. Splitting of your piece occurs when one over stuffs legs and shoulder plates, not leaving enough room for the piece to shrink during firing. Blanket prop may be cut to desired shapes for firing.
- If you experience any pitting (small pinholes) in your porcelain from any of these products, be sure to try one of the others to relieve your problem.
- When handling any of these materials, please use gloves and a respirator appropriate for dusts (mask). You do not want to inhale any of these materials into your lungs.

FIRING CHART

Orton Cone in Sitter	Witness Cone on Shelf	Degree F	Degree C	What to Fire
020	021	1157	625	Some special china paint techniques
019	020	1234	668	Luster's (mother of pearl, etc.)
018	019	1285	696	Soft fire and normal china paint fire
017	018	1341	727	Soft fire breast plates
06	07	1816	991	Mid fire (post soft fire - still "cleanable")
2	1	2088	1142	Glazes on porcelain
6	5	2194	1201	Porcelain bisque fire for flesh tones, tans, browns
7	6	2219	1215	Porcelain bisque fire: white clay ranges