Firing Glass and Ceramic

Puddling Full Fuse Schedule		
Rate	Temp	Hold
200	450	10
400	1150	10
600	1650	10
1000	1100	1
100	1000	10
50	900	10
200	700	1
400	250	1

- When firing ceramic products it is important to use a well ventilated kiln. Firing slowly to 450°F makes sure that atmospheric water is removed, that the glass is past thermal shock, and that clay bodies are past cristobalite conversion. At this point it is advisable to close the kiln ventilation to improve heating efficiency.
- When glass is fired to a puddling full fuse (cast fuse) unrestricted glass will pull to its natural surface tension, approximately 1/4".

Procedure for Applying Kiln Washes:

- In a bowl, jar or tub: fill the bottom of the container with enough kiln wash to cover the brush head.
- Brush your kiln shelf or mold as if you are painting a wall, with smooth even strokes. Avoid smashing your brush. Splaying out the bristles will misalign them; creating texture on the finished surface.
- Apply the first stroke from one side to another. Re-dip your brush, making sure remove excess out of brush before applying next stroke.
- Each successive stroke should slightly overlap the previous stroke, but going in the opposite direction (i.e. start each stroke where the last one left off, and ending where the previous stroke started.).
- Rotate shelf 90° and repeat.

Fusing Farm Line of Kiln Materials

FKW-B01 "Ultra Primer" is formulated to create a thin refractory ceramic shell on any porous surface. Designed to stay in suspension longer, so re-stirring is kept to a minimum.

FKW-SSP "Smooth Surface Prep" (SSP) creates a smooth surface on practically any material. This two part material is mixed up just prior to use. It was originally designed for applying kiln wash to cold stainless steel surfaces.

FCG-001 "Castable Ceramic for Glass" is a glass fusing mold mix. The name says it all; it is a fast curing ceramic body designed for casting molds for fusing glass (slumping, full-fuse, cast-fusing). Designed to withstand repeated firings above 1600°F while retaining its shape and texture.

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FusingFarm

Studio Line

Kiln Materials

The Fusing Farm has specially formulated a line of ceramic products that allow you to turn your kiln into a superior fusing kiln. Our kiln washes create a thin film of refractory ceramic on nearly any surface.

Castable Ceramic for Glass will be the only mold material you will use for fusing. This material will set up in hours rather than days, vastly improving turnaround time; from project idea to finished glass. Castable Ceramic for Glass is durable enough to retain its shape and texture through repeated firings.

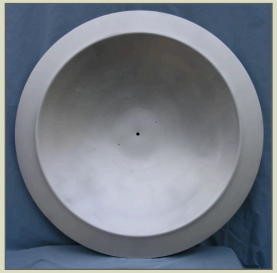
www.Fusing Farm.com

Fusing Kiln Wash - Ultra Primer

- Formulated to create a thin refractory ceramic skin on porous surfaces.
- Designed to stay in suspension longer; so stirring is kept to a minimum.
- Mix 1 part dry to approximately 5 parts water. Finished mix should be between the consistency of whole milk and heavy cream.

Smooth Surface Preparation (SSP)

- Originally formulated for coating smooth surfaces, such as stainless steel molds; SSP has many other uses. This kiln wash will effectively coat nearly any non-porous surface, including glazed ceramic.



- SSP can be used on non-glazed ceramics as well; to bridge in a gap, divot, or other imperfections in the mold. Soaking SSP into porous surfaces is not recommended. Pre-wetting the piece with water, will prevent excessive amounts of SSP from entering the porous body.
- Brush on, one thin coat (cold) and let dry. Apply a second thin coat if desired. *[Some prefer spray on application (NL-366, or NL-310).]* For added durability, fire to 950°F in a **ventilated kiln**; burning out binding agents before continuing on to full-fuse.
- After first firing; brush vigorously with an old cloth, to smooth the surface. If it is being used on a slumping mold, a second thin coat can be applied to fill in any imperfections.
- Many successive firings can be achieved without resurfacing the mold. The surface can be maintained from firing to firing with hand 'polishing' the surface and application of kiln washes, such as Fusing Farm Ultra Primer.

Castable Ceramic for Glass

- Before Mixing: Make sure you are on a level surface. Check that the sides of the mold are secure and sealed. Don't forget your parting agent, such as Mold Soap (IP-6046) or Purelube (IP-240).
- Add 2 parts dry to 1 part water, by volume. When mixing by weight, water should be 50% of dry weight. Exceeding 60% can effect the long term durability of the finished mold.
- Blend for 2 to 3 minutes, with a powered mixer *(i.e. jiffy mixer TM-321, glaze mixer TM-401, plunge mixer TML-002, swing-T mixer TML-T5, or mud mixer TML-085)*. Proper blending is necessary to assure saturation of dry ingredients and dispersion of ceramic elements within the mixture.

- Pour into prepared mold, and allow 30 to 60 minutes before de-molding. If surface is still hot; it is still setting. If surface never gets warm, then too much water (or cold water) was used in the mix. Temperature of water can affect the setting time (cold=slow, warm=workable, hot=fast).
- For best results (better long term durability) let the casting dry for a couple of days prior to firing.
- Force cure your cast-mold by placing in ventilated kiln or oven at 275°F for 4 or more hours *(depending on size, thickness, and dryness of piece)*. Test for remaining moisture content by placing a piece of glass horizontal to the opening on the kiln or oven. If the glass fogs up, then increase cure time until glass no longer fogs. Finish the firing of the cast mold by taking the kiln up to the desired use temperature.

- Using fusing kiln wash prior to adding glass to the mold will improve the durability and longevity of the cast mold.

WARNING: When working with any ceramic product you should be cautious of dust and small particulate matter. Always work in a well ventilated area, and wear a NIOSH approved respirator. Don't use around food or beverage. Always wash hands and clothing thoroughly after use. Some products contain organics that burn out during firing; **always operate kiln in a well ventilated area**. For additional safety (MSDS) information call 626-330-0631.