

Vince Pitelka, 2016

### **Wax-Alumina Resist – Recipe and Use**

#### ***Plucking/Sticking Problems with Porcelain***

Many true porcelain claybodies have a highly-developed glassy-phase at maturation temperatures and can stick to the kiln wash or kiln shelf during firing. When this happens, large chips or chunks of clay can break off the outer edges of the foot as the piece starts shrinking, and remain stuck to the kiln shelves. This is called ***plucking***. Bisque-fired porcelain clay is extremely porous, and if the foot is not waxed and is sponged off instead, generous amounts of glaze will remain in the pores, greatly increasing the likelihood of plucking. For these same reasons, the lids on porcelain covered vessels can stick badly in the glaze firing. In all of these situations, using a wax resist with some alumina mixed in will completely eliminate the problem. After the firing, the alumina residue is easily removed with water and a sponge.

#### ***Use of Wax-Alumina Mixture for Lids/Galleries in Soda Firing***

With any claybody in light or moderate soda firing, a wax-alumina mixture can be used to wax the lids and galleries, avoiding the necessity of wadding the lids, which often results in the lids warping. As mentioned above, after the firing, the remaining alumina will wash away with sponge and water. Note that this technique will not work in a very heavy soda firing, where a large amount of soda is charged. In all other soda firings, use of the wax-alumina mixture should prevent any lid from sticking. Note also that this only works in soda-firing. The sodium vapor atmosphere in salt-firing is far more invasive, and lids must be wadded.

***David Beumee's Wax-Alumina Mixture*** – This recipe was generously provided by David Beumee, studio potter working with porcelain in Lafayette, Colorado.

“I use two tablespoons of 200 mesh alumina to a cup of emulsified wax. I also thin the mix with water, adding about an eighth to a quarter cup of water per cup of wax. The alumina does settle to the bottom overnight, but I don't find it to be a problem, and when it's mixed into the wax, it stays fairly well in suspension with an occasional stir. 325 mesh alumina will also work, and stays very well in suspension, but I like the larger grain size that 200 mesh supplies.”