

GLAZE SETTLING & SUSPENSION

Technical Tips And
Product Information

#35

Not all glazes settle and require 'suspension'. Stoneware glazes are less likely to settle, whereas Raku glazes and Earthenware glazes are very likely to settle.

Dipping glazes settle for a variety of reasons and, in the majority of cases, can be 'corrected' to perform appropriately without too much effort.

1. Some glazes are naturally inclined to settle very quickly due to the nature of the raw material ingredients. The worst 'offenders' are frits, all of which are HEAVY materials in their natural state. The higher the proportion/amount of these materials in a glaze, the greater the likelihood the glaze will 'settle hard' once wet-mixed. It's acceptable to add 1% of bentonite to any glaze recipe to assist in the plasticising/suspension of the other ingredients. You may choose to add a commercial glaze antiset (follow manufacturer's instructions) or add a primitive suspension agent such as Epsom salts.
2. Any glaze that sits unused/unstirred for long periods of time will also settle – simply stir the glaze by hand (wear rubber gloves) before deciding if the glaze has 'settled hard'. If it has set hard, add some glaze commercial antiset (follow the manufacturer's instructions).
3. When initially mixing glaze powder with water, keep the water content to a minimum, adding more if required – using too much water when mixing a dipping glaze, will often create immediate settling problems. Sit the glaze bucket overnight until the top portion of the glaze turns to clear water, then pour off the excess water, and remix the glaze to the correct consistency (milky-creamy). *Beware of pouring excess water off glazes which contain soluble glaze ingredients such as borax etc. – you will change the glaze formulation.

If a brush-on glaze settles, it is generally because:

1. The glaze has been over-thinned with water by the person using the glaze, and this then leads to heavy ingredients falling out of suspension because the mixture is no longer thick & creamy. Let the glaze sit overnight, and if any clear water forms on top of the glaze, pour it off the next day. Alternately, leave the lid off the jar for a day or two to evaporate some of the excess water.
2. The binder (thickener) in the brush-on glaze may have no antibacterial agent, or perhaps the glaze is too hot (on the studio window ledge or stored in the kiln room) and the antibacterial ingredient has ceased to act due to the high temperature – this allows bacteria in the glaze liquid to thrive, and EAT the binder in the glaze, resulting in a very thin/watery glaze which settles easily. If the antibacterial agent has ceased to be active, the glaze will often smell 'pongy' and have a thin layer of mouldy fur on top of the glaze. Pour off the clear liquid on the top of the glaze, replacing it with brushing medium – stir the mixture well (with a bamix or blender). Add a teaspoon of Dettol or household bleach to the mixture to kill remaining 'bugs'. DO NOT STORE BRUSH-ON GLAZES IN HOT/SUNNY AREAS!

Glaze antiset changes the 'electrical charge' on the clay (bentonite, ball clay, kaolin etc.) ingredients in a glaze mixture, therefore the higher the proportion of 'clays' in a glaze recipe, the more effectively the glaze antiset will perform. There are a variety of materials which can be used to create different strengths of glaze antiset, so it is best to stick to one antiset brand material if it works for your purposes ensuring you'll be happy with the ongoing performance. If you do not know what proportion of clay ingredients occur in your glaze, add a small amount of antiset, stir well then 'feel' the glaze performance. If you accidentally add too much antiset and your glaze goes 'podgy' like porridge and won't dry, it's effect will have to be reversed by the addition of Calgon (a brand of water softener available from grocery stores in the laundry products section). We recommend keeping a record of how much antiset is added to any particular glaze, because each glaze will require a different amount of antiset.