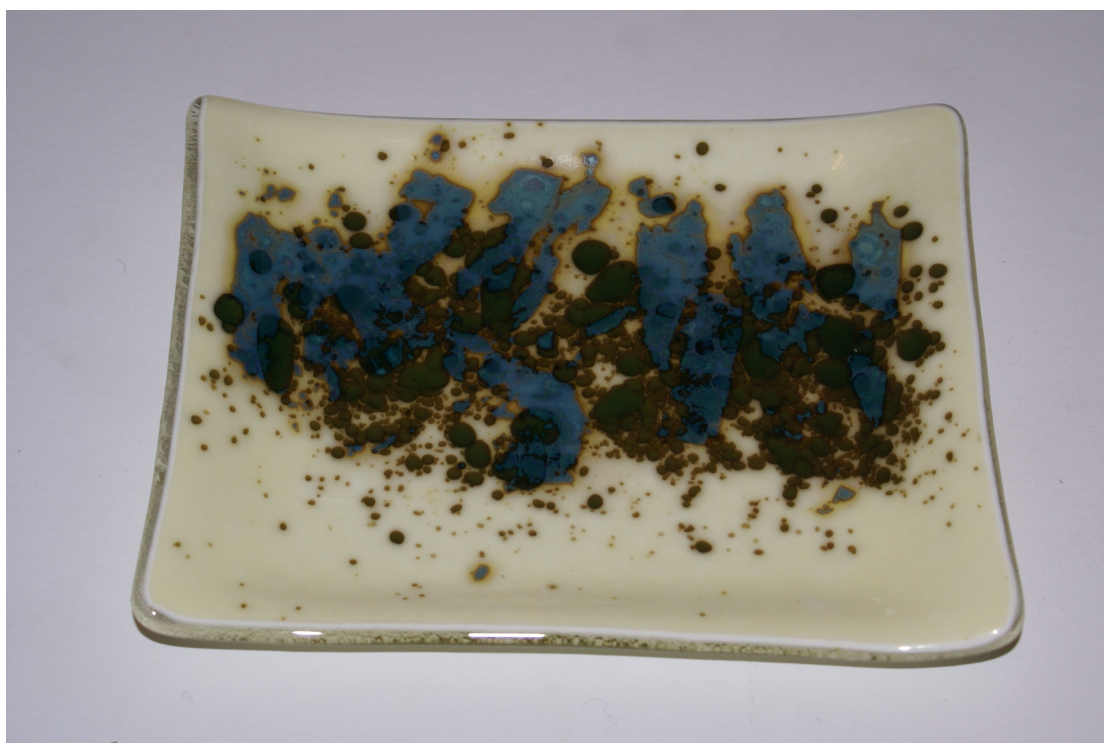


Reactive Glass

The latest 'hot new' thing in warm glass seems to be 'reactive glass'. I say 'new' because it has always been a technique in some respects due to the chemical composition of different coloured glass and the chemical reactions between them and metal (Silver, Gold and Copper) inclusions. Bullseye started producing special reactive glass about five years ago and Spectrum joined in a few years later.

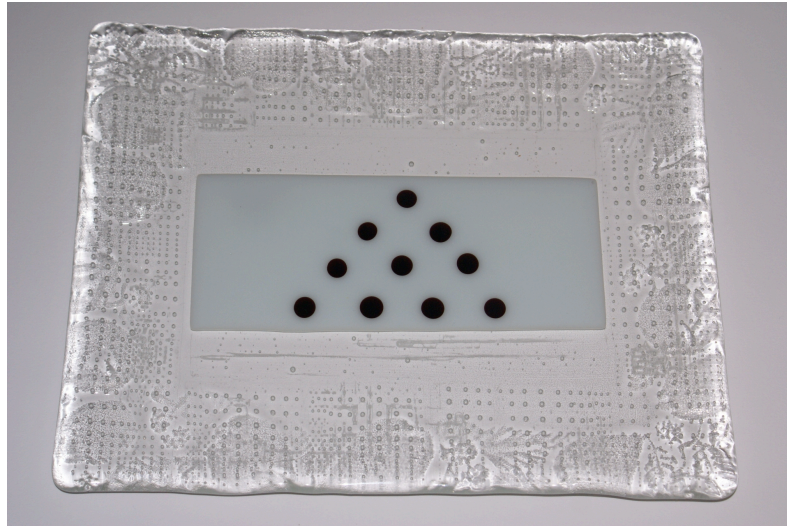
It is a simple development really. Glass (simplistically) is made up of sand (Silica) and potash (Potassium) or soda (Calcium Carbonate) plus metals (Copper, Lead, Iron, Sulphur, Boron) for colour. The addition of Iron Oxide gives clear soda lime glass a greenish tint, Iron and Chromium (and indeed Uranium) create green glass, Sulphur gives amber, yellows and vanilla, Copper creates blue, Lead oranges and reds and so on. The elements in the glass will also react with silver, gold and copper metal inclusions like leaf, powder, wire and grid.

So if a Copper bearing Blue/Green glass frit is scattered on a Sulphur bearing vanilla glass the result is a dark amber glass. If Silver (Ag) leaf is placed on the vanilla it reacts and 'fumes' beyond the leaf itself to create red. If the Copper frit covers the silver then the silver leaf 'remains' blue. All three reactions can be seen below in a sushi plate I made in 2012 and sold at Paddington Markets.



The glass manufacturers also produce reactive glass that is either white or clear. They react with Copper or Silver to produce a reddish hue. Not all glass will react and there is a lot of experimentation to develop the correct colour intensity. Spectrum and Bullseye both have useful fact sheets on their websites to give the glass artist some degree of predictability. The best part

though is that you get to play around a lot and particularly with powders and frits. The plate below shows the copper colour created by laying copper bearing rods on reactive white. The bubbles in the clear border are deliberately produced by laying two sheets of reeded (ribbed) clear on top of each other at right angles.



I have seen an artist's 'colour card' that shows the results of combining frit colours - over 600 combinations - and it is a fantastic tool and well worth the effort to create. It is much harder, and much more expensive, to produce than the Pantone style colour charts used by designers and artists. Below is a chart from System 96 Uroboros glass showing combinations of various blue and green (Copper bearing) frits with their red reactive clear glass – very cool!!

