Mason Stains

Key to Composition

Al	Aluminum Oxide	Al_2O_3
B	Boric Acid	B_2O_3
Ca	Calcium Carbonate	CaO
Co	Cobalt Oxide	CoO
Cr	Chromium Oxide	Cr_2O_3
Fe	Iron Oxide	Fe_2O_3
Mn	Manganese Dioxide	MnO_2
Ni	Nickel Oxide	NiO
Pr	Praseodymium Ox.	Pr_6O_{11}
Sb	Antimony Oxide	Sb_2O_3
Si	Silicon Dioxide	SiO_2
Sn	Tin Dioxide	SnO_2
Ti	Titanium Dioxide	TiO_2
V	Vanadium	V_2O_5
Zn	Zinc Oxide	ZnO
Zr	Zirconium Dioxide	ZrO_2

Using Mason Stains

- To stain clay, or for brushwork over or under glaze:
  For Δ10: mix 1:1 stain to Custer Feldspar or Unispar.
  For Δ4-6: mix 1:1 stain to Nepheline Syenite.
  For Δ06: mix 1:1 stain to Ferro Frit 3124 or Frit 3110.

- When making your own glazes, liquid glaze should reach consistency of whole milk. Add Mason Stains by weight as a percentage of dry ingredients. Use .5% to 3% for Green, Black & Blue, or 2% to 8% for Yellow, Pink and Purple.

- When mixing your own clay, add Mason Stains by weight as a percentage of dry ingredients: 2% to 5% for Green, Blue or Black, or 5% to 10% for Yellow, Pink, Purple.

- Engobes and underglazes should reach consistency of cream. Add Mason Stains by weight as a percentage of dry ingredients: 3% to 10% for Green, Blue & Black, or 8% to 15% for Yellow, Pink and Purple.

- When coloring moist clay, allow for 30% water, then add Mason Stains by weight as a percentage of the estimated dry ingredients (ie, 17½lbs dry stain out of 25lbs total wet clay weight).

Reference Notes

1. Can be used as porcelain body stain at Δ6 or Δ10
2. Max firing limit 2156° F (1180° C)
3. Max firing limit 2390° F (1310° C)
4. Max firing limit 1976° F (1080° C)
5. DO NOT USE ZINC in glaze
6. Stain may be used with or without zinc
7. Zinc not necessary, but gives better results
8. Best results with NO zinc
9. Glaze must contain 6.7% - 8.4% calcium oxide

* **Zinc-free glazes** should generally not contain magnesium oxide. Some stain colors containing zinc should be used in glazes without additional zinc. The zinc-free oxide can change the glaze's fired color.

* **Calcium oxide** content (in calcium carbonate) should be 12-15% for best color. Adding the molecular equivalent of calcium oxide with Wollastonite often gives better uniformity, but you should factor in Wollastonite's higher silica content.