

# Variables

- Glaze/Application
- Firing

Beside the composition, glaze application and firing are the two most critical factors in the development of crystals. Generally, crystalline glazes are applied on the thick side. I mix my dry glaze ingredients with a CMC gum solution and brush up to 4 coats of glaze. As the crystalline glaze usually has little or no clay, the CMC will help keep the glaze in suspension and prevent thick applications of glaze from cracking while drying. Firing speed, temperature, crystal growing temperature and how long that temperature is held are factors in number and size of the crystals.

# ^6 MFE/Dan Turnidge

Ferro Frit 3110 - 50%

(GF 134)

Zinc - 22.5%

Silica (325M) - 22.5%

Lithium Carbonate - 2 – 5%

Titanium Dioxide - 1%

A simple yet reliable crystalline glaze.

# MFE/Turnidge



Example of MFE/Turnidge glaze using nickel oxide & manganese dioxide

# MFE/Turnidge



Example of MFE/Turnidge glaze  
using cobalt & manganese dioxide

# ^6 HELEN'S/ ALTERED SNAIR

Frit 3110 - 48.40%

Zinc - 24.35%

Silica - 17.95%

Calcined Kaolin - 1.52%

Titanium Dioxide - 7.78%(ALTER)

Lithium Carbonate - 5%

This was originally a cone 9 glaze from David Snair. We've altered the quantity of titanium and added lithium carbonate.

# Helen's/Altered Snair



Example of Helen's/Altered Snair using cobalt, manganese & iron

# ^6 Untitled

Frit 3110 - 28%

Frit GF 106 - 25%

Silica - 13%

Zinc - 24%

Titanium Dioxide - 2%

Lithium Carbonate - 2%

A very successful cone 6 glaze, but GF 106 is no longer available. Fusion Frit #413 has been used as a substitute.



# Untitled Glaze



Example of Untitled glaze  
using cobalt & manganese



# Untitled Glaze



Example of Untitled glaze using cobalt & manganese , with an additional 2% titanium

# Untitled #2

Frit 3110 - 54

Zinc Ox. - 24

Silica - 23

Lithium Carb. - 3

Untitled #2 is similar to MFE/Turnidge, but even with minor changes, the results can be different.

# Untitled #2



Example of #2 using  
nickel oxide

# Manual Firing Schedule

Manual Kiln, L&L, J18X, 3 sections, infinite switch for each section.

- Kiln on high
- ^6 over in 4 1/2 hours
- Kiln off, drop to 1000 – 1040°C (1835 – 1905°F) about 30 – 45 minutes
- Kiln on, switches vary between “L” – “2”
- Hold temperature 4 hours

This is my firing schedule using an L&L, J18X kiln with three sections, each section controlled by a manual adjusted infinite control switch.

# Programmed Firing Schedule

L&L J18X-3, Dynatrol Controller

- USEr/1
- SEG/2
- rA1/500
- °F1/2230
- HLd1/.05
- rA2/500
- °F2/1800
- HLd2/4.00

This is the program entered into a Bartlett controller on a L&L, JD18X-3 kiln.

# Pots/Pedestals/Catchers



Example of pot (left) with brushed on glaze, pedestal (mix by volume: 1/3 alumina, 1/3 kaolin, 1/3 sawdust) and glaze catcher plate. Example of pot after firing: pot breaks away from pedestal to be ground smooth. Catcher holding excess glaze.