

# Pottery

Pottery @ ENTS

- Glaze Recipes
  - Randy's Clear glaze Recipe
  - AB Slip Blue Rutile Plus Cobalt Carb
  - Red Oilspot
  - Honey Wheat
  - G3806F - Fluid melt clear
- Processes
  - Running a test fire
- Kilns
  - Troubleshooting
  - Expected performance

# Glaze Recipes

# Randy's Clear glaze Recipe

You need about 10kg to fill a 5 gallon bucket. I would suggest you try a test first. I've been testing a similar clear base from "mastering cone 6 glazes" ;

Materials	Amt
PPS Fusion Frit F-12	25.00
PPS Feldspar Custer Potash	22.00
PPS EPK	18.00
PPS Silica 295 mesh	26.00
PPS Talc Silverline 303	5.00
PPS Whiting (Calcium Carbonate)	<u>4.00</u>
Total:	100.00

I've modified it to change from frit 3134 to f-12 as 3134 may be very difficult to get in the future.

For every 100gm of dry materials start with 85 gm of water.

Date April 1 2024 - Will be setting up a small batch first as Randy suggests.

# AB Slip Blue Rutile Plus Cobalt Carb

Recipe sourced from <https://glazy.org/recipes/121839>

Target SG is 1.45, this is a dipping glaze at that. It does tend to settle quickly, so mix well before you dip. It needs a fairly thick application, it can crawl a little or turn brown if it's not applied thickly enough.

This is a Cone 6 glaze



## Recipe

Material	Amount
<a href="#">Alberta Slip</a>	80.00
<a href="#">Ferro Frit 3134</a>	20.00
Total base recipe	100.00
<a href="#">Rutile</a>	4.00

Material	Amount
Cobalt Carbonate	2.00
Total	106.00

Glaze Recipes

# Red Oilspot

Sourced from <https://glazy.org/recipes/36081>

A cone 6 oil spot with red and black mottling



The inside is straight red oilspot. The running blue-to white comes from layering a band of Spectrum Running Hot Chowder over it. It sure is running, but that's probably my favorite combo!

# Recipe

Material	Amount
Minspar 200	25.91
Custer Feldspar	21.59
EP Kaolin	15.11
Ferro Frit 3195	13.82
Red Iron Oxide	6.91
Dolomite	6.04
Amtalc-C98 Talc	6.04
<del>Silica</del> not found or type unknown Silica	4.58
Total	100.00

Glaze Recipes

# Honey Wheat

Sourced from

<https://glazy.org/recipes/36974>



## Recipe

Material	Amount
Silica	30.00
Dolomite	19.00
EP Kaolin	18.00
Spodumene	18.00

Material	Amount
Ferro Frit 3134	10.00
Gerstley Borate	5.00
Total base recipe	100.00
Manganese Dioxide	4.00
Bentonite	2.00
Red Iron Oxide	1.50
Total	107.50

# G3806F - Fluid melt clear

Taken from <https://insight-live.com/insight/share.php?z=gbcM8HXmX2> via digital fire

I like this clear over underglazes, as it is a cone 6 clear that is designed to stay fluid at firing temperatures for a while to let out any offgasing bubbles from the underglaze. Microbubbles from offgasing make underglaze designs appear cloudy or gray, this keeps the colours a bit brighter. That link has a variety of different recipe versions, most of which include additives for color I don't use in the clear version for dipping.



Code #  
G3806F

	Materials	Amt
	Silica	23.500

	Wollastonite	7.000
	Kaolin	10.000
	Strontium Carbonate	5.000
	Ferro Frit 3110	22.000
	Ferro Frit 3249	21.000
	Zinc Oxide	3.000
	Spodumene	6.000
	Bentonite	2.500

# Processes

# Running a test fire

*This page is a work in progress.*

After some kiln repairs it may be required to run a test fire. Typically this will happen after a relay or element replacement to ensure the kiln is operating normally.

1. Empty the kiln, if not already done.
2. Place a shelf at each zone with pyrometric cones to record temperature.
  - Each set of cones should consist of 1 below target temperature, 1 at target, and 1 above target.
  - No other pieces should be fired.
3. Run the kiln's program normally.
4. Record the runtime and cone behaviour.
5. Compare kiln performance against [Expected performance](#).
6. Make repairs and [Troubleshoot](#) as required.

# Kilns

# Troubleshooting

## Disclaimer

**Do not perform troubleshooting without approval from the Board.**

## Manuals

[Bartlett V6-CF Manual.pdf](#) (Jill - Blue kiln)

## Common symptoms for troubleshooting

- Firing duration is weirdly high
- Pieces are being fired inconsistently (some are over-fired, others under-fired, within the same firing)

**If you think something is going wrong in the kiln, check the relays first!**

## Relays

1. Disconnect power from the kiln
2. Note the wiring (take photos)
3. Remove the relays individually, testing them on the bench power supply
  1. 3 terminals will receive power
  2. Connectivity when power is supplied should be present through the remaining sets of terminals
  3. Verify the relay pinouts to be sure on which terminals are used
4. Ensure all spade connections are tightly coupled. It should require fairly significant effort to disconnect the relays. Tighten with pliers as needed.

After replacing needed relays:

1. [Run a test fire](#)
2. At approximately 100 degrees Celsius, do a paper/heat test on each element to confirm operation

# Kiln elements

1. Verify that the thermocouples look okay, not damaged, and no pieces or shelves are too close (this could cause a false positive).
2. Disconnect power from the kiln
3. Open the front control panel
4. Note the wiring (take photos)
5. Remove the screw terminal connectors which attach to the elements
6. Using a multimeter, record the resistance of all 6 elements
7. If any of the 6 elements are more than 10% out of spec, replace all elements (values are recorded below)

Replacing elements:

1. TODO

After replacing the elements:

1. [Run a test fire](#)
2. At approximately 100 degrees Celsius, do a paper/heat test on each element to confirm operation

## Jill (blue coneart) expected resistance values

Element	Nominal	In spec range
1 (top)	14.2 Ohms	12.78 - 15.62 Ohms
2	17.9 Ohms	16.11 - 19.69 Ohms
3	17.9 Ohms	16.11 - 19.69 Ohms
4	17.9 Ohms	16.11 - 19.69 Ohms
5	17.9 Ohms	16.11 - 19.69 Ohms
6 (bottom)	14.2 Ohms	12.78 - 15.62 Ohms

Kilns

# Expected performance

*This page is a work in progress.*

Each of the kilns has an "expected" runtime and temperature behaviour. These characteristics are recorded below. If the real world values start to drift from these expected values, perform

[Troubleshooting](#).

## Jill (blue coneart)

TODO

## Jack (red skutt)

TODO