My Raw Glazing and Once Firing Techniques

Making

DACORUM AND CHILTERN POTTERS GUILD

Drying

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Glaze types

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August
2020

January
2020

Waxing and Masking

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Tools and Glaze Application

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Finishing

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Troubleshooting Repairs

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Me!

Dame Lucie Rie

Pinholing

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Kiln ready

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Using glaze as a glue

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Loading the kiln

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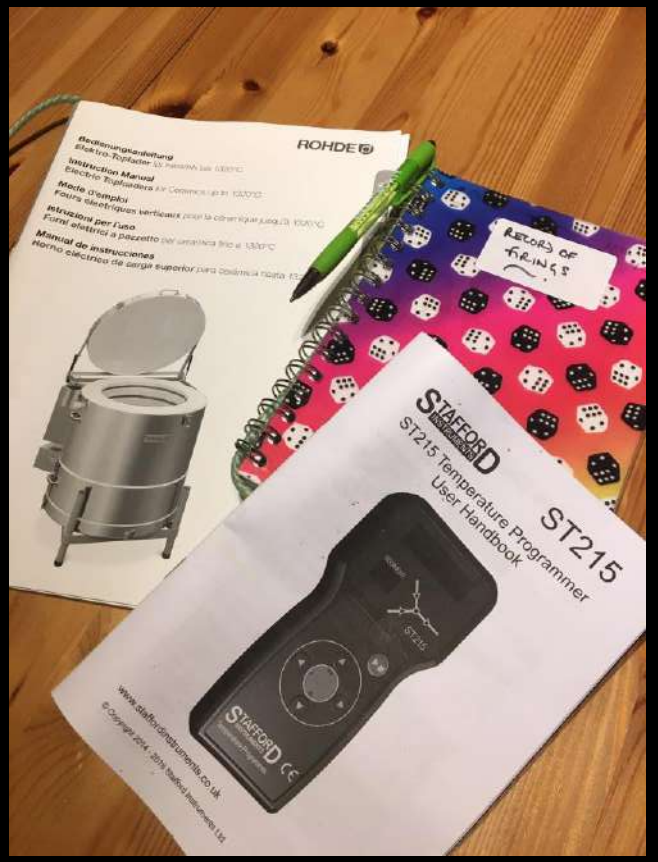
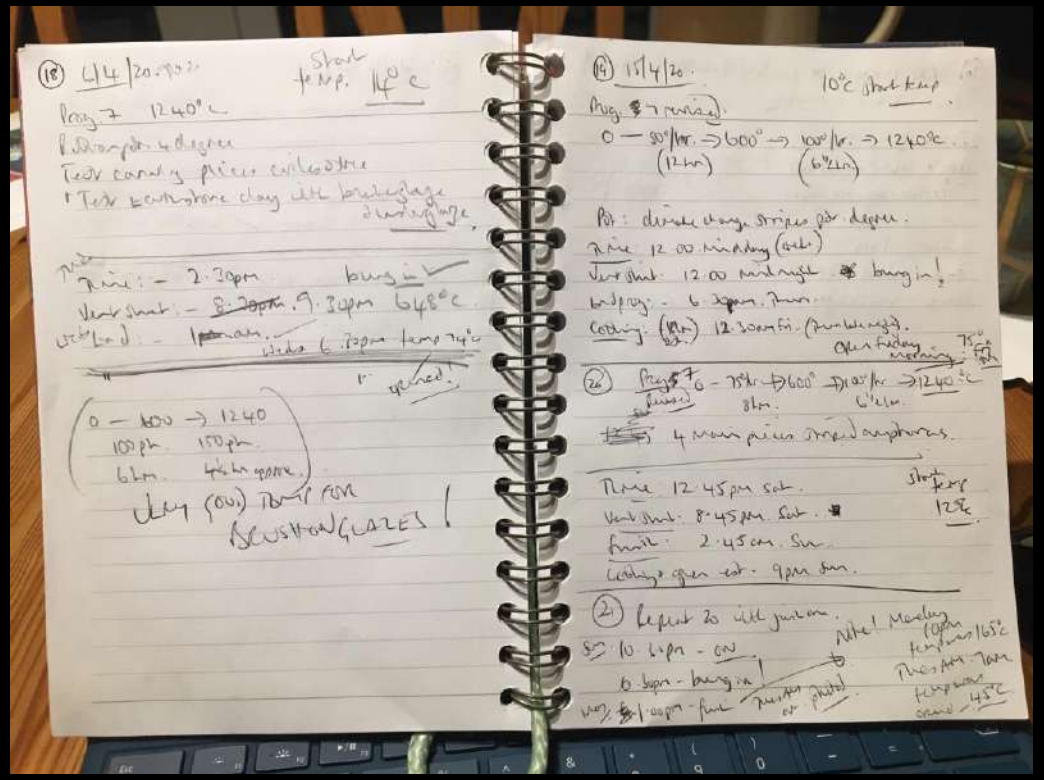
Model		Tmax	Int. dimensions mm			Ext. dimensions mm			Output	Supply	Connector	Furniture batts	Weight
Volume		°C	w	d	h	W	D	H	kW	A	Plug	w x d mm	kg
TE	80 S	1320	ø 450		460	790	800	780	6,0	13	CEE 16 A	410	99
ZWR	80 S		ø 450		150	790	800	150	3,0	–	–	–	20
TE	100 S	1320	ø 450		610	790	850	930	9,0	13	CEE 16 A	410	117
TE	95 S	1320	ø 520		460	850	860	790	7,3	16	CEE 16 A	470	113
ZWR	95 S		ø 520		230	850	860	230	3,7	–	–	–	29
TE	145 S	1320	ø 520		680	850	910	1020	11,0	16	CEE 16 A	470	142
											CEE 32 A	540	130





Rohde Kiln, Stafford Controller

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Before turning on, BUNG OUT, VENT OPEN (and garage door open)

Ramp 1
0 - 600 degrees (@100 degrees per hour – 6 hrs)

BUNG IN, VENT CLOSED at the end of Stage 1 (no soak)

Ramp 2
600 - 1240 degrees (@150 degrees per hour – 4 hrs 16 mins) (no soak)

End

At 100 degrees, BUNG OUT, LID PROPPED OPEN SLIGHTLY

At 50 degrees, fully opened and work removed with gloves

On: 7am
Bung/Vent: 1pm
End: 5.16pm (total firing time 10hrs 16 mins)
Open: next day, 9am (26 hrs total start to finish)

Single firing schedule to stoneware

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- Different clay bodies – porcelain, red clay
- Different firing temperature – earthenware
- Different glazes – more layers, underglazes

Further experimentation

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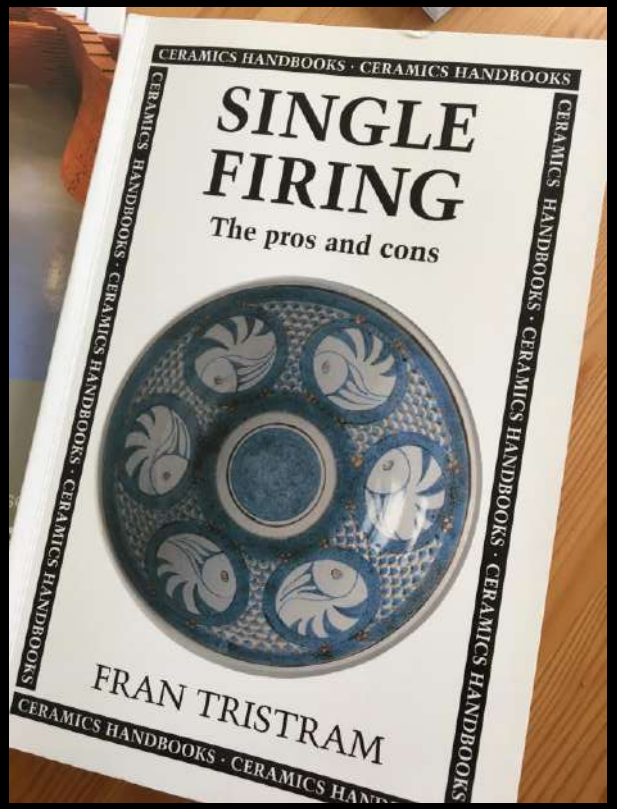
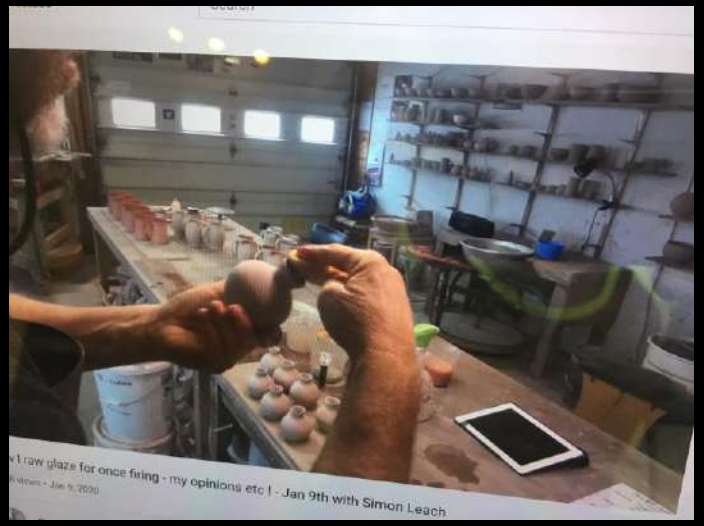
https://www.youtube.com/watch?v=q4ntlXkvtTs – April 2017 – comparisons between raw glazing leather-hard and fully-dried ware using glaze for bisque ware and how to add bentonite to bisque glaze to stop flaking

Fran Tristram

– libraries or Amazon (from £36) and includes raw glaze recipes



https://www.youtube.com/watch?v=3bM7tMaOsjE – January 2020 – raw glazing the insides of oil lamps and jugs with other tips for application and encouragement to have a go!



Simon Leach

– free on YouTube

Recommended

DACORUM AND CHILTERN POTTERS GUILD

Dacorum and Chiltern Potters Guild Coffee Morning 9th September 2020 – My talk on Once Firing

Slide 1

Thank you, Judi, and thank you for inviting me to talk about my Raw Glazing and Once Firing! Short talk first, then questions afterwards please!

Slide 2 - Making

The first point I'd like to make is that there is little difference in how you make pots for once firing – processes are mostly the same, although you need to consider in your design, how you're going to glaze your finished work at the outset (pouring/dipping/brushing) and you might consider making slightly thicker walled work to make it more robust for glazing. Thinner walls have less clay to absorb the glaze. Here's the early stages of some of my recent work – I use the 'Really Good Stoneware' from Claymans Supplies.

Slide 3 – Drying

So, I raw glaze when the pots are fully dried out, as opposed to leatherhard. For me, raw glazing is simply the application of glaze onto an unfired pot. Drying my work takes different amounts of time, depending on what it is and the air temperature. I dry my ribbon pots slowly and initially cover them loosely as the ribbons dry out quicker than the bases so slow drying helps stops cracking.

So, once you've made your forms, you can raw glaze at either the leather hard stage or when pots are fully dried out like the work shown here.

Raw glazing fully dried pots means that most water in the clay pot has evaporated and the surface of the pot is therefore ready to take glaze which contains more water, depending on the type of glaze you use. If you raw glaze at the leatherhard stage, you risk the glaze flaking off as the pot shrinks as it dries.

Slide 4 – Glaze Types

These are some of other the glazes I've tried. I've found commercially bought brush-on glazes are currently best for my work. It's just the stage I've got to. The range of stoneware brush-on glazes from Potterycrafts shown on the left here, apply well on my stoneware clay and cause few defects. They are about £8/9 per pot but you get a consistency if you use more than one pot of the same colour and you don't get any waste, they're easy to store and use. You have to give them a good shake before you start and if using for a long time, keep putting the lid back to give the pot a shake up again to ensure the glaze remains an even consistency.

I have also tested Duncan and Amaco glazes (on the right) which also work but haven't really found any colours in the range that I like yet. I have a wish list to do more experimenting with layering up different colours (as you usually have to apply at least 2 coats) and have just started combining 2 colours.

If you're using dipping glaze you might find it difficult to get it to 'stick' to the clay surface – Simon Leach suggests adding bentonite in his video's and I found Lucie Rie's raw glaze recipes contain gum arabic. You just have to experiment – the best thing is to have fun and have a go. Simon Leach recommends the next firing you do, add a few raw glazed pots and see what happens!

Slide 5 – Waxing and Masking

Before applying my glaze, I wax any foot-rings to save time cleaning up later on. There's little room for error from this point on – if you have to remove any excess glaze, you'll probably remove some of the clay as well and could distort your form. As the pot is fragile at this stage, you need to be very careful how you handle it – it's best to take into account how you're going to glaze it during the making process.

I create my masking patterns using a highly effective masking tape called Frog tape – no idea why it's called Frog tape apart from the fact that it's green – you can get yellow masking tape called Gorilla tape, then there's the ordinary white one but green sticks the best! I cut different size strips of tape depending on the design I make. I used uniform stripes for my degree work but have gone back to a more random design now, which I first used when experimenting with masking tapes in January.

Slide 6 – Tools and Glaze Application

These are the tools I use in my glaze application process – apart from the small red kidney. I wanted to show this to remind me to tell you that the smoother the surface of the clay is before I apply my masking tape, the easier it is for me to stick the tape on – I've found masking tape doesn't work very well on grogged clay as it takes too much tidying up after it's removed as it's just not smooth enough.

So, first of all I use a rubber tipped tool to press the masking tape on securely, smoothing it over the tape to reduce the seepage from the glaze. I use a range of paintbrushes to apply the glaze and the craft knife is to 'tidy up' any edges when the masking tape is removed – I need a strong pair of glasses and lots of patience to finish these off properly. You can see an example here of how detailed the work can get!

Slide 7 - Finishing

As I've said previously, brush-on glazes need at least 2 coats and the trick is to work out which parts of your pot to glaze first, then work around it in a memorable way. This is so you repeat the same way round for the second coat as it dries really quickly, and you can't always see where you've already applied the first! I usually start glazing the inside first, then wait 5-10 mins before doing the outside, depending on the size of the pot and the thickness of the walls. It's also a good idea to wait about 10-15 minutes before applying a second coat for the clay pot to firm up again.

I have another difficulty with some of my ribbon pots in that I can't easily access the inside of the pot with a paintbrush as the ribbons are in the way, so I made my own bendy paintbrush tool out of an old cable and sponge taped on the top!

I've found it's better to remove the masking tape and finish off the tidying up while the glaze is still drying. If you leave this to the next day, the glaze is more brittle and you can risk tiny flakes coming off the clay. As usual, if you're in your own studio and in control of your own space and firing, it's easier to manage.

Slide 8 – Trouble Shooting and Repairs

Even when I'm being ultra-careful, accidents do happen at the glazing stage, which makes it very frustrating if you're at the end of the glazing, as happened to me with this pot – one of my ribbons broke off. I think the glaze was too much for the thin ribbon and I was doing it too quickly, so it didn't have enough time to dry out briefly between coats of glaze. So you need to be more careful,

The advantage here of raw glazing is that when this happens, as it's not yet been fired, you can still rescue a situation by carefully scraping back the clay and smoothing it over, then glazing back ontop. You can see here the mark left on the glaze from the repair but because of the colouring in the glaze, you wouldn't necessarily know. I didn't finish it off as well as the others as I thought the repair would be too obvious, but in fact it was at the bottom of the kiln and came out a lovely shiny colour.

Slide 9 – Pinholing

Another problem associated with raw glazing is pin-holing – this is when raw glaze is applied to leatherhard ware. The water in the leatherhard pot sometimes pushes off the glaze as the pot continues to dry out and shrink underneath. As the pot shrinks, the glaze doesn't have a good enough 'fit' to the body. This can also result in glaze defects in fired work such as pinholes and cracks. You can of course have a go of this yourself and experiment to see what results you get – I've found this is the best way for me.

Slide 10 – Kiln Ready

I get all my work together before packing the kiln, so I plan how I'm going to pack it and to make sure it's all really dry before starting. If raw glazed work goes into the kin wet, it's more likely to have problems if at all.

Slide 11 – Using glaze as a glue

Some of my work is created by relying on the glaze to 'glue' pieces together; when I was deconstructing and re-imagining pots, I tried slicing them up into rings at the leatherhard stage, leaving them to dry, then glazing all sides before stacking the rings up and often arranging them directly in the kiln to save carrying them and disturbing how I wanted them stacked up. This pair of egg cups were a commission from my Mum – she didn't realise she was getting deconstructed ones!

Slide 12 – Loading the kiln

Here's how I loaded the kiln for this firing – I've been taught to load small pieces at the bottom, then larger ones at the top – fortunately all my recent work fitted in one load.

Slide 13 – Rohde Kiln, Stafford Controller

This is my kiln, which is kept in the garage, where you can see our solar panel controls and the storage battery. I bought my Rohde kiln last year in February, with a Stafford controller and Kevin Sparrow fitted it for me (he's based in Watford for those who don't know and I'd recommend him) – I had to have a separate isolation switch installed and the 'head' where our electricity comes into the house was upgraded to 100amp from 60amp to cope with any multiple appliance use. We didn't need 3-phase electricity. This slide also shows my Firings Record Book – it's a discipline I was taught at Uni.

Slide 14 – Single Firing Schedule to Stoneware

This is the detail of the actual firing schedule I use – I am careful to close the vent and put the bung in at the end of the first stage, firing all the way up to 1,240 degrees C. This helps preserve the life of the elements. The whole firing takes about 26 hours from starting to opening (so including cooling down). I initially read that once firing should have a slow ramp, so I tested the first 0-600 degrees at 50 dph, 75 dph, then finally 100 dph in 3 separate firings and found no difference in the glaze quality of the final outcomes.

Slide 15/16 – my recent work

Slide 17 – further experimentation ideas to take forward

Slide 18 – recommended watching/reading – Simon Leach has been trying once firing since 2017. On these videos he says he wishes he'd tried once firing years ago for all economic and financial reasons.

Mandy English 9.9.20