

Western Suburbs Clayworkers Newsletter April 2024

Hi from our President

Yes, the weather is finally getting cooler!

Time to get working if you haven't already. Don't forget your work may dry more quickly with cooler, drier air and you will need to cover it for longer to avoid cracking and warping!

Firing

Lyn and the squad are now using cookies/ biscuits for all glaze firings. Supply your own signed cookies or your work may not be fired. If in doubt ask the firing squad.

BVAC Pop-up 7-9 June 2024

WSC have booked 5 tables (the maximum) and will allocate spaces nearer to the event.

As usual we do our own sales with our very versatile Square card reader. Helena is looking into just using the Square phone App so we may not need the Reader for cards in future.

We only have 7 members interested in showing this time but there is still time to express your interest - don't leave it too late!

EKKA 2024

Just a reminder that entries are open and close at the end of May, delivery end of July.

Our Annual Exhibition

We have booked the Richard Randall Art Studio Gallery at Mt Coot-tha for 11-13 October 2024. Set-up on the Friday and bump-out on Sunday

More information will be available very soon!

2025 - 20 years of Western Suburbs Clayworkers

This will be a big year for us.

The Auditorium is booked at Mt Coot-tha for 19 to 21 September 2025.

This means we will have plenty of space for everyone to exhibit your best work.

We will also have demonstrations running for the weekend.

Workshops and Studio

Raku

Our first Raku for the year will be on 28 April.

Your work will need to be in a suitable Raku clay. Full details on the requirements for your work have been circulated.

Other workshops for the year

We are keen to hear from you on any workshops you would like to participate in for the rest of the year.

Some suggestions are: Lustre firing, low fired enamels, mould making and the old favourite, throwing.

Newsletter contributions needed

If you have an interesting project on the go, let us know with a short description and some photos. This would be appreciated to keep the newsletter newsy.

Stay well, keep safe and pot on.

David

What have you been working on? Please send us a few words and photos!

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Gai and the Kevin Grealy pot she wishes to donate toward the raffle at the October

Exhibition. It is a typical Kevin Grealy blossom jar. We are to glaze and fire it ready for the

exhibition - any suggestions for the glaze?

Kevin Grealy (1941-) was born in Brisbane, QLD. He trained as an art teacher in the early 1960s, learning ceramics under Carl McConnell at the Central Technical College.

In 1966, Kevin migrated to Canada and completed a B. Ed. (Fine Art) majoring in ceramics and printmaking at the University of Calgary, Alberta. In 1970, he returned to Australia and in 1974, took up a position as manager of the Barambah Pottery at Cherbourg.

He joined Australian Flying Art School in 1976 and wrote a three year correspondence course in ceramics.

From 1981 to the present day Kevin has been a freelance artist, teacher, lecturer and design consultant in Australia, Taiwan, Vietnam and PR China.



Gai uses Bar Keeper's Friend to scrub the remaining tar off Raku pieces!



David presented a 3D printed throwing tool. Suitable for foot rings as shown, rims etc.



Turtle Back Sponges from the tiling department at Bunnings. These sponges are very long lasting and can be used for clean-up, throwing etc.



A large pot that didn't make it - clay type unknown but very thin and chalky!

Any thoughts as to what may have happened?

Clay memory thanks Natalie - more details on-line

https://ceramicartsnetwork.org/ceramics-monthly/ceramics-monthly-article/Techno-File-Clay-Memory?fbclid=IwAR0W9NLJcCAV-mM4aLpGZrxTFo3AkJXpr6IytS6n7ZuseTBkUgQU-UNKH1Y_aem_ ARJGgZ1ACIHIpMOXzOUHhGYvBgVFXUbL8pSG9T60KIhTDpyTEvdjpkivIduDeRZZSCA#

Plasticity is desirable in clay, but high plasticity often goes hand in hand with the troublesome property of clay memory. Learn how to predict and manage memory to prevent warping prior to firing.

Defining the Terms

1:1 Particle: The physical property of a single molecule of kaolinite defined by silica on one side and alumina on the other, with no inner layer; for example 1 silica:1 alumina.

2:1 Particle: The physical property of a single molecule of ball clay or montroillite defined by two outer layers of silica, with a single inner layer of alumina; for example 2 silica:1 alumina.

Clay Water Film: Individual clay molecules encapsulated by single molecules of water that transmit an ionic charge.

Ionic Charge: A positive charge results in flocculation, a negative charge results in deflocculation/plasticity.

Memory: Clay particle orientation that is affixed by physical/ ionic properties. Particles tend to return to that orientation even when distorted by various forming techniques once they start to dry out.

Plasticity: Extensibility or malleability of a clay body that allows it to retain a formed shape.

Pyroplastic: Deformation of a clay body caused by over firing or the excessive use of a flux in body formulation.

Stacking: The polar alignment of clay molecules caused by strong/uniform negative charges.

Yield Point: The amount of pressure required to deform a clay body, or rupture a formed piece after it has dried or been fired.

Memory is not a singular property, but rather a series of attributes all caused by a singular source, water. Water is required to transport a negative ionic charge uniformly across the clay particles, which in turn causes them to stack and align. In addition, water creates a low yield point that allows clay to be formed by various techniques. The sum of all of these properties is plasticity. Memory is caused by the loss of water content. As moisture is lost, the yield point increases until the maximum green strength is achieved. As drying occurs, the uniform negative charge reverts back to neutral, which in turn causes disorientation of the particles. Once the water leaves the clay, so does memory. Distortions that happen as a result of firing are due to pyroplastic issues unrelated to memory.

Factors Contributing to Memory

Memory, like plasticity, is a property of the ionic charges and the mechanical and physical attributes of clay molecules suspended in water. Water is the conduit that carries the ionic charge, which is absorbed by or held on the clay platelets, and creates tension on individual particles. In essence, it is a clay/ water system that creates the physical properties that potters love about clay, while the evaporation of water creates the properties potters abhor. As the levels of plasticizers in a clay body increase, the amount of water increases because fineparticle ball clays absorb more water than coarser grained clays like kaolin. As both plasticizers and water increase, plasticity increases. However, shrinkage rates also increase, as does memory as water evaporates.

Negative ionic charge is required for plastic properties to develop in a clay body. What is often overlooked is that a negative ionic charge also orients clay particles, commonly referred to as stacking. As drying occurs, the uniform negative charge reverts back to a more neutral charge, resulting in particle disorientation.

The third group of factors that contributes to memory is the physical properties of clay. Kaolin (porcelain) is a 1:1 particle that holds water on its surface. Ball clay, bentonites, and hectorites (Bentone MA) are 2:1 particles that absorb water into their core. When magnified, the silica and alumina of 1:1

kaolin particles appear side by side, while those of a 2:1 ball clay appear sandwiched. The outer layers are silica, the inner layer is alumina. Ball clay, bentonite, hectorite, and smectites all absorb water, but kaolin does not. For example: bentonite can absorb 15 times its weight in water and become gelatinous.

Moist clay has a low yield point and dry clay has a much higher yield point, commonly referred to as green strength. Within a single drying piece of clay, the higher yield point of the drier portions exert tension on the low yield point of any adjacent area still containing moisture, further compounding the effects of memory.

Minimizing the Effects

Knowing what causes memory is one thing, knowing how to minimize its effect is another. The first issue to understand is that high-plasticity clays often have high memory. Porcelain is more prone but any highly plastic clay body is susceptible. The second issue is water. The more water you add to a body during forming, the more you increase the likelihood of memory issues. The heavy slip that comes up when you throw indicates you are washing out fine particle plasticizers which in turn softens them and changes the ionic charge they carry.

Another memory factor to consider is uniformity of the formed piece. Does this piece have uniform wall thickness, and/or do the attachments such as handles or other ornate additions have the same thickness? Obviously thin walls will dry faster than thick walls, which is multiplied if they are very thick or very thin. Thick or weighty attachments made to thin walls can amplify the effects of memory. Care is required not to over saturate the clay with water if misting. Sponging should be avoided as it will unevenly moisten and remove fine particles and erase detailing.

Slab and tile work are the most susceptible to warping caused by memory. Prevention begins when rolling slabs. Roll in multiple directions—not just one. Smaller pieces can be flipped half way through the process. Large slabs formed on a slab roller should be rolled in both directions, forward then backward. Rolling in one direction stretches the slab as much as it compresses the slab. Unequal compression can add to memory issues, and cause the slab to be more susceptible to quartz inversion stress when firing. Cut pieces from the centre of the slab and avoid the outer 2 inches around the perimeter if possible.

The preferred method for handling tiles after being rolled is storage on drywall ware boards. While this method works, I prefer to use 1/2-inch Sande plywood, which absorbs and releases moisture at a slower rate and does not flex when lifted. I roll and cut tile on the plywood to avoid any additional handling of the clay. Placing a second piece of plywood over the tile adds just enough weight to lightly compress the tiles and helps prevent warping. Tiles and slabs will shrink while drying, so use enough weight to hold them flat, but not so much you create drag as they dry. Memory is a clay property that you have to manage as part of your forming process.

To control warping caused by memory issues, you primarily have to control the rate of drying. In addition, moisture content must remain uniform across the entire piece, whether it be a large bowl or a flat tile. Small, thin-walled bowls and cups are popular, but thin-walled pieces are susceptible to memory issues. Thin walls are less resistant to the stress and pull. For example: thin tiles warp more than thick tiles due to the dispersion of stress. Thin attachments to thicker pieces are also susceptible to memory issues. The shrinkage rate supplied by your clay supplier should also be considered. Highly plastic bodies have higher levels of plasticizers, which mean higher water content. Shrinkage rates above 12.5-13% indicate high plasticity, making those bodies more susceptible to warping due to memory. For slab or tile work, keep the shrinkage rates to 12% or under.

Kelly's Piece - The first gathering

I wanted to create a piece in response to a call out that was made to help raise awareness and funds for what was happening in Gaza. In early February artists were asked to donate art to go towards fundraising for Palestinian refugees in March held by Magandjin Creatives for Palestine. As a mother of a toddler I have been thinking a lot about what it must be like for a parent to live through a war trying to protect your children. I thought of 3 separate pieces: a bowl, tent and a slice of watermelon. These objects connected to my thoughts regarding families during this ongoing conflict: the needs of parents or caregivers to provide nourishment, security or shelter and a place to be held or comforted.

I initially didn't know how I would connect them as an art work, but as I continued the creative process my

concept became clearer. I realise now that I am a vessel for these things for my toddler and so created these objects into vessels that could be put together into an oil burner that fits a vase into the entrance of the burner. Watermelon for the flag and children of Palestine and the oil burner represents parents, family, guardians, and/or care givers; a bowl for holding and to provide nourishment and a tent for refugees and shelter.

I slab built them out of mid-fire porcelain clay (clay works Cool-ice) and used red underglaze, Amaco Palladium (bloodline that runs through the entire piece), Amaco Celadon and matte black. It was sold as soon as they made it live on their online shop and was on display at Vacant Assembly in West End for the fundraiser. The photos are my process and the final outcome. *Thanks Kelly Otto*



Kelly's thought processes and her final piece

The Tuesday crew at work





Kathy on the wheel at left. Cam, Shumang, Mardi and Kelly above.

Vincent Garcia - Raku on Facebook

https://www.facebook.com/watch/?v=1073382457100999&aggr_v_ids[0]=1073382457100999¬if_ id=1711581265418330¬if_t=watch_follower_video&ref=notif



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