

NORTHCOTE POTTERY SUPPLIES
TECHNICAL TIPS AND PRODUCT INFORMATION #13

CRACKING IN DRYING & FIRING POTTERY

CRACKING IN RAW CLAY

- Every 'join' is a potential drying crack. Make sure that the bigger, the thicker or the more joins in a piece of work, the slower the drying process.
- Irregular thickness throughout a single piece is a major potential cracking hazard. Dry pieces slowly and at a rate that suits the worst (thickest) section of the piece of work.
- Beware the location of work when drying – shelves, sills and benches which are near windows or doors are always going to create problems with uneven drying. Work will become too hot on one side in sunny weather, too cold on one side in cool weather or too dry on one side in windy weather. Dramatic difference in the temperature/drying within a piece of work only means TROUBLE.
- What's it sitting on while drying? Pottery is ideally dried on cement sheet or timber boards, NOT laminex, glass or plastic sheets which will not allow any drying on the bottom surface of a work and subsequently create cracking problems as the work dries and tries to shrink. Most clays shrink by at least 5% from the wet to dry stage.
- Even and slow drying is incredibly important for tiles – they must be sandwiched between 2 boards to ensure slow and even drying, and no warping.
- Never try to dry a thrown form which is still holding water (i.e. in the bottom of a thrown bottle form) because it will invariably crack. Tip any excess water out before commencing drying. It is also important to compress the base of all thrown ware while still on the wheel to prevent stress cracks.
- Each clay has its own character, just like a person. This character must be respected and cannot be changed to suit you. You will need to learn to work with the clay, not against it. This will require experience and patience. Alternately, ask your clay supplier to recommend a 'forgiving' clay (i.e. usually a coarse, handbuilding clay) which will take almost any punishment.
- NEVER SPEED DRY using hairdryers, heaters or the kiln – you are asking for trouble.
- Some pottery faults happen because you have not prepared or handled your clay in the appropriate way. Always ensure that clay is de-aired (commercial clay comes this way), that you do not create uneven stresses in the clay from poor technique (i.e. slab rolling in one direction on only one side of the clay) and that the work is made with the most consistent wall thickness possible throughout the form.

CRACKING IN FIRING

- Generally caused by too fast heating, or too fast cooling in the kiln. (If you are worried, try 50°C/HR as a conservative heating rate and then make the rate faster once you are firing successfully).
- Firing will MAGNIFY and ACCENTUATE any faults created in the work in the raw stage. If pottery is not dry before firing, for example, hairline cracks enlarge, stress cracks can appear, and steam cracks become apparent etc.

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NORTHCOTE POTTERY SUPPLIES PTY LTD
142 – 144 WESTON STREET BRUNSWICK 3056
PHONE: 9387 3911 FAX: 9387 4011
MON-FRI 9.00AM TO 5.00PM SAT 9.00AM TO 4.00PM SUN CLOSED

www.northcotepottery.com.au