Keraflex® Porcelain: An introduction

Rachel Kingston and Margaret Carlin have been researching the potential of Keraflex® porcelain tape

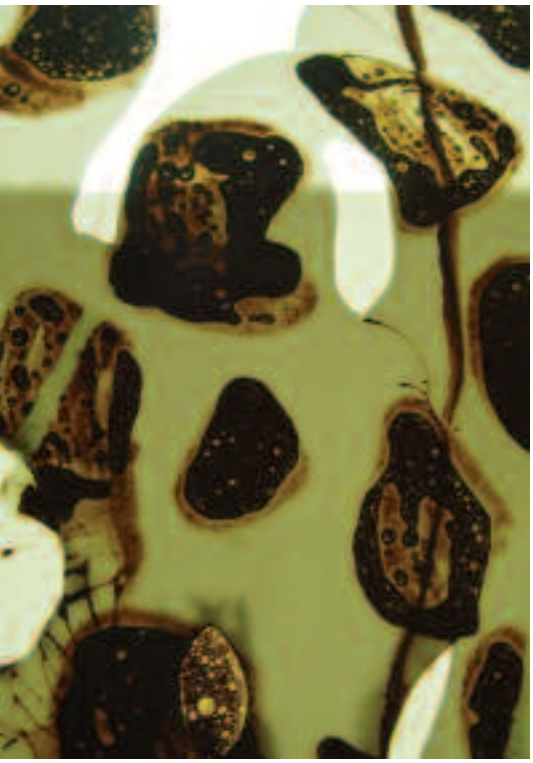
Keraflex® IS A THIN, flexible sheet which is industrially created from a mix of porcelain and an organic binder which burns out when fired. This world-wide patented product has allowed for some previously unachievable technical possibilities.

The green strength of the Keraflex® sheets is the most noticeable difference, and offers the most potential. Much like a thick sheet of cardboard, it does not require the usual delicacy necessary as when handling unfired porcelain. It can be manipulated whilst dry, however after soaking in water for a few seconds, it becomes extremely flexible and can then be bent, cut, shaped, twisted, folded, woven, and then left to dry without fear of cracking. Damp pieces can also be fired successfully.

The strength of the Keraflex®, and also the translucency when fired is comparative to other porcelain mediums. Three sheet sizes are available through

Left: Translucency when fired is comparative to other porcelain mediums. Right: Even prior to soaking in water, Keraflex® is flexible and easily manipulated.

Janet Fieldhouse. 2006. ***Armband****. For simple designs, it may not be necessary to soak the strips of Keraflex® before weaving.*



Margaret Carlin. ***Regeneration Series*** *(detail). 2007. Laminating can also be combined with oxide and/or glaze decoration.*

Keraflex® has two distinct surfaces prior to firing.

Mobius Distribution, A4 (210 x 297 mm), A3 (297 x 420 mm) and A2 (420 x 594 mm) in thicknesses of 0.5 mm and 1.0 mm. Custom sizes can be negotiated on an individual basis, depending on the quantity needed, up to A2. A garnish slurry is also available to be used as a joining slip.

By using the garnish slurry, sheets of Keraflex® are able to be laminated together. Keraflex® can easily be cut into complex shapes and a thin application of slurry allows for the building up of several layers which provides a strong bond.

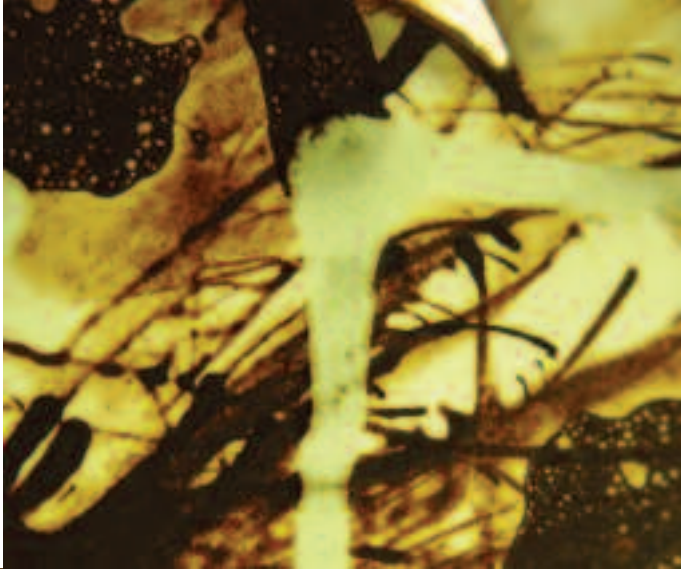
Due to the translucency of the material, when back lit the layering effect is clearly visible. Laminating can also be combined with oxide and/or glaze decoration which allows a visual narrative to be built up during successive firings. Keraflex® can be assembled to build 3D shapes such as boxes or other containers.

Keraflex® can also be used to create woven objects. Strips of Keraflex® can be torn, or cut before weaving. Slurry can be used to glue the ends together. After soaking in water, Keraflex® can also be folded or crumpled into complex shapes. There is no need to support the piece whilst drying. Keraflex® appears to hold its shape easily and does not warp, collapse or crack while drying.

Keraflex® has two distinct surfaces prior to firing. One side being whiter, smoother and shinier, while the other side is yellowish and has a thicker more water resistant surface coating. This side has a slight surface texture which provides 'tooth' when applying surface decoration.

When testing the differences between these two surfaces, it was discovered that it was possible to wash oxides off the yellow side, with no residue visible after firing. Although possible to remove oxides from the whiter side, it was more prone to buckling. However, the two sides offer some interesting options when applying surface decoration, depending on the desired result.

The smoother white side allows the application of extremely fine details without bleeding or smudging. The yellow side



Margaret Carlin. ***Regeneration Series*** *(detail). 2007. When dry, both sides are resistant to accidental damage to the decoration.*

Rachel Kingston. ***Love Letters****. 2006. Keraflux and digital decal. Decals can also be easily applied after firing.*

allows for a heavier application of washes of colour. When dry, both sides are resistant to accidental damage to the decoration.

Most drawing implements can be used such as brushes, nibs, ceramic crayons and pencils.Potentially Keraflex® could offer the printmaker an opportunity to exploit a 3D printing medium, upon which embossing, screenprinting or etching techniques can be used pre-firing. Decals can also be easily applied after firing.

Keraflex® has the additional bonus of allowing decoration prior to 3D manipulation; subject to the decoration being water resistant, if significant wetting is required.The decoration can then be intrinsic to the piece itself no matter how convoluted the final shape may be.

Keraflex® can also be glazed. As with all clay bodies, some testing may be required to establish an appropriate fit of glaze to body. Most tests undertaken have been once fired to 1280°C. As you would expect with with any thin porcelain work, bisqued pieces are extremely fragile. Rachel and Margaret have been experimenting with different firing schedules and they have found that in an electric kiln have shown that an 80°C rise per hour to 1280°C is ideal, with a 10 minute soak at 1280°C.

In a gas kiln a faster increase is, of course, possible. Firing rates of up to 200°C an hour in the early stages have not resulted in any cracking or warping of the pieces. Reduction firing produces a greyer white than in oxidation.

Although Keraflex® is less prone to warping and slumping than most thin porcelain work, suitable supports should still be used while firing. Shrinkage is approximately 18 per cent when fired to 1280°C. Normal safety procedures should be applied while working with the tape and firing the Keraflex®.

NEW PIC

Rachel Kingston. ***Chat Boxes****. 2006. This shows the surface application potential.*

Keraflex® is distributed throughout the Asia Pacific Region by Mobius Distribution.
Orders and enquiries:
Local: 02 6282 8040
International:
61 (0)2 62828040
www.keraflex.com.au
Email: info@keraflex.com.au or sales@keraflex.com.au

The testing undertaken by both Rachel Kingston (MVA) and Margaret Carlin (MVA) along with Janet Fieldhouse (MPhil candidate ANU) is an ongoing research project, which aims to explore the many possibilities provided by Keraflex® for its complex 3D manipulation and construction, together with the surface potential with regards to mark making. Rachel Kingston's work is exhibited at the Brenda May Gallery, Danks Street, Waterloo Sydney. (02) 9318 1122.