HowTo's

Here are some important HowTo's that you may want to refer to regularly:

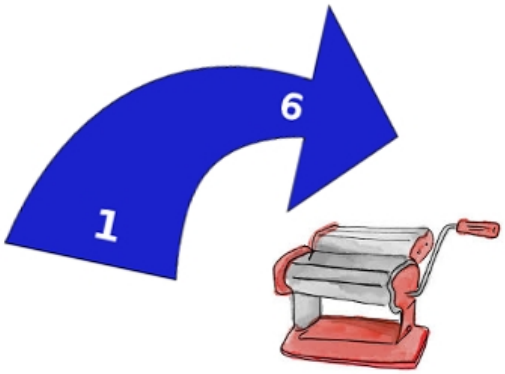
1. Calibrate your Pasta Machine for the course

I use an *Imperia* pasta machine (PM) with 6 settings.

The table below shows how many playing cards correspond to each thickness setting of my pasta machine.

Print this page and enter your own numbers for the settings on your machine; keep this page handy as you'll need it throughout the course.

My Pasta Machine Settings	Your Pasta Machine Settings
PM1 = 8 cards	
PM2 = 7 cards	
PM3 = 5 cards	
PM4 = 4 cards	
PM5 = 3 cards	
PM6 = 2 cards	



2. Incorporate pigment to clay

Pigment can always be added to a manufactured coloured clay, opaque or translucent, to alter its colour to your preferences. For the pigments, I use powder pigment, dry pastels or solid pan pastels.

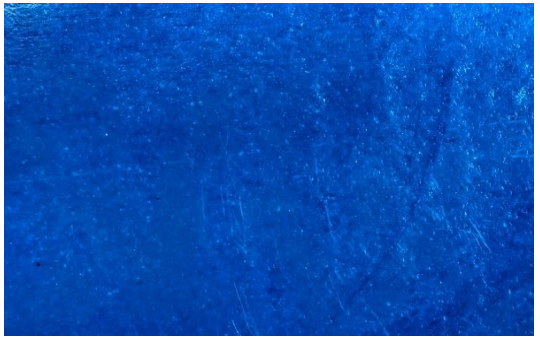
I make my own colour mixes using translucent clay as a base and tint it with pigments. With added pigments, once cured, the clay looks like an opaque clay when either unsanded or sanded with coarse grit. When sanded with finer grits, you get the shine you normally have with translucent clays.

a	Wear a mask and gloves	
b	Protect your work surface with a sheet of paper	Place a sheet of paper on your work surface and work on it rather than directly on your tile.
c	Condition the clay and run it at PM6	Run your clay through on the thinnest setting of your pasta machine to give you a large surface to spread the pigment.

Video available on Voila! website

2. Incorporate pigment to clay / continued

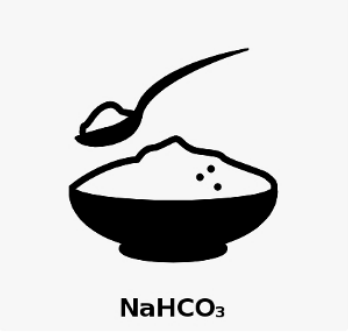
d	Add pigment	It is best to proceed progressively by adding pigment a bit at a time and observe how quickly it saturates the clay. Using something like a Q-tip dipped in the pigment, dab a small amount on one half of the sheet and then spread it over that half.
e	Fold and squeeze	Fold the sheet so that the half with the pigment is covered by the un-pigmented half. Fold it again in half. Then, squeeze the clay between your fingers to allow the clay to absorb the pigment.
f	Run the clay through the PM	Run the clay through the pasta machine as many times as you need to obtain a homogeneous mix.
g	Repeat d to f	Repeat d to f as many times as you need to obtain the intensity of colour you need. Pigment will darken when cured. On the video, I repeat this process twice to obtain a medium blue. To obtain a dark navy blue, I repeat this process at least 5 times.



Medium blue obtained by mixing blue pigment to translucent clay

3. Incorporate Sodium Bicarbonate into clay

Bicarb is what gives the clay the look and feel of fabric when incorporated into the clay. The effect can vary according to the type and brand of bicarb. The instructions below are for "cleaning grade" bicarb. "Food grade" bicarb has a finer grain and you may need to execute Steps b to d more than twice. With practice you will determine how much bicarb you add for the effect you want.



Video available on Voila! website

a	Place a sheet of paper on your workspace. Condition the clay, run it at PM6 and lay it on the paper	Working on paper rather than directly on a tile makes it easier to collect and dispose of excess bicarb. The surface area of the sheet that you are using determines the amount of bicarb that will cover it. At PM6, the coverage is maximised, while at PM1, you will lay down less bicarb, and there will be less coverage.
b	Brush bicarb over the entire surface of the clay and press it into the clay with your fingers.	
c	Flip the sheet over and repeat Step b. Roll the roller over it.	
d	Fold the sheet in half and run it through at PM4. Repeat 3 times. Fold the sheet in half and run it through at PM6. Repeat 3 times.	Mixing is optimal when using a small setting like PM6. However a thick sheet of clay made slippery by the bicarb will not easily engage between the rollers at PM6. That's why you first work at PM3, then at PM6 when the bicarb has been sufficiently absorbed and the surface of the sheet is no longer slippery.

e	Shake off excess bicarb from the paper. Repeat Steps b to d once
f	Run the sheet at least 10 more times through at PM6 to evenly mix the bicarb.

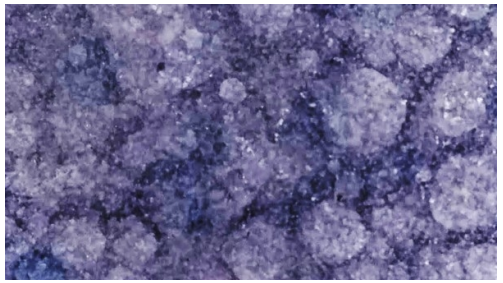
4. The chemistry of Baking Soda – make your own Sodium Carbonate (optional)

Baking Soda or Sodium Bicarbonate releases water and CO2 when heated to become Sodium Carbonate; this is what makes your bread rise in the oven.

When curing opaque clay infused with Sodium Bicarbonate, the pockets of CO2 will not be visible. However, if you use translucent clay instead, the pockets of CO2 will form the type of clouding illustrated in the image.

While you might want to exploit this effect, you can avoid it by using Sodium Carbonate instead of Sodium Bicarbonate. Sodium Carbonate has a thicker grain than Sodium Bicarbonate and can enhance the visual texture of your veneers. If you want a finer powder, grind your Sodium Carbonate with a mortar and pestle.

Sodium Carbonate is more absorbent than Sodium Bicarbonate. Therefore, when you incorporate it into clay you might need less.



Clouding caused by Sodium Bicarbonate

There are two ways of turning Sodium Bicarbonate into Sodium Carbonate: 1) The Dry Method and 2) The Slurry Method. Whatever method you choose, make enough Sodium Carbonate to last through the course and beyond. Sodium Carbonate will readily absorb water, to return to baking soda. Therefore, store it in a sealed container to keep it dry.

1) The Dry Method: Cover the bottom of a shallow pan with a layer of Sodium Bicarbonate and heat it in an oven for 30 minutes at 400 degrees Fahrenheit or 200 degrees Celsius. Carbon dioxide and water will be given off, leaving dry Sodium Carbonate.

2) The Slurry Method Pour Sodium Bicarbonate in a shallow pan, thoroughly mix it with water to obtain a slurry, then bake it in the oven:

1. Proportions: mix the same volume of bicarb to water.
2. Bake for 60-90 minutes at 300F or 150C until the slurry is fully dried out. It should dry as a solid, but friable sheet.
3. Grind the dried material. You can crush it between your fingers as it breaks easily, or use a mortar and pestle.

My thanks to Olivia Surratt, Artsy Sciencey and Kelly Russell for coming up with the Slurry Method.

5. Make a paper-thin sheet of enriched clay

It is possible that the thinnest setting on your PM will not produce a sheet of clay thin enough for the purpose of the course. The aim is to produce a sheet of raw clay thin enough to be able to read small print through.

To achieve this, you need to reduce the distance between the rollers at the thinnest setting by inserting spacers. Spacers can be any of a sheeted material such as paper, card-stock, silicon, teflon etc. The material in direct contact with the clay **must** be non-stick such as baking paper or with silicon or teflon-coated sheets. Avoid any stretchy materials such as Deli paper or cling film as they will stretch and break the clay.

For my Imperia machine at PM6, I use a single layer of teflon-coated sheet and one sheet of card-stock.

Practise with scrap clay first. Start with the sheet of non-stick material. Then add a sheet of card-stock or other material you've decided to try. Decide whether you need a second card or something thinner or nothing at all. Each pasta machine has different measurements.

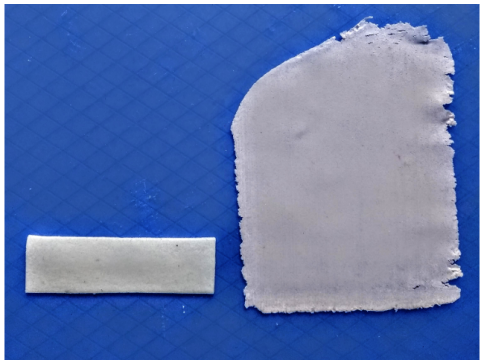
a Run a sheet at your thinnest setting

Cut a rectangle into the clay

The thinning process will elongate the clay up to 3 times its original size. As this process will render the clay fragile, you want to work with just the needed amount of clay and not more. Anticipate the size of your desired project sheet and cut a rectangle as follows:

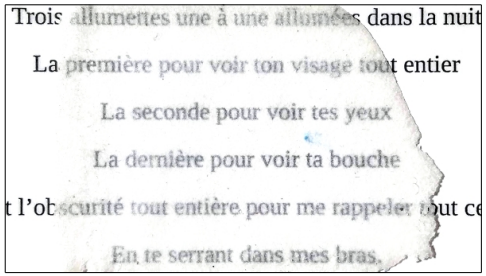
The length of your rectangle must be the width of your desired project.

The width of the rectangle must be a third of the length of your desired project.



Size change: Before (left) and after thinning (right)

b	Set your machine at PM6 Insert the stack of spacers between the rollers and engage them BEFORE inserting the clay by moving the crank a titch Insert the long side of the clay rectangle between the rollers	Please clean the non-stick material before use. If you are working with baking paper, use a new sheet each time: used paper will stick to the clay more readily than unused paper.
c	Roll slowly: Do Not Rush this step!	Hold the stack gently out as it comes out of the PM so that it doesn't catch on the bottom of the PM.
d	Separate the clay from the sheet of non-stick material with a blade	After rolling, separate the clay from the sheet of non-stick material with a blade. In most cases it will come off easily. If it tears, you will be able to fuse any tears when you burnish the clay on your veneers. If you find it difficult to separate the clay from baking paper, you can burnish your clay over the paper, then separate it once the clay has fused to your veneer.



Paper thin sheet of clay

Video available on Voila! website

6. Cure and sand

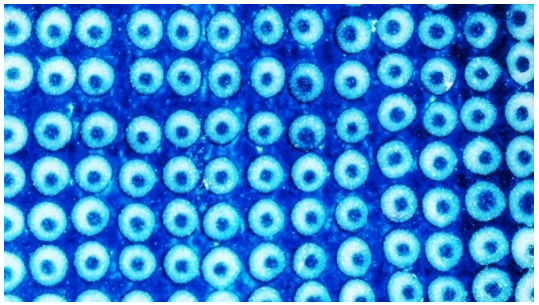
a Curing

Always protect your veneers before curing. I wrap my veneers in kitchen towel. Cure for the minimum recommended time.

In this tutorial, the veneers are always created on thin sheets and usually 15 minutes at the recommended temperature is enough. Every oven is different, so cure for the duration that works for you.

I prefer to cure for a short period of 10 minutes, cool the piece off and repeat for another 5 minutes. This to avoid the formation of gas pockets.

Always check that the clay has cured properly by bending a corner of the clay when it has cooled off. Over-curing can cause the clay to brown.



After very fine sanding

b Sanding

Sand your pieces using wet 180, then 280 grit abrasive paper. This rough grit lifts the grain and thus personalises the clay. Thoroughly wash the veneer in water to remove any Sodium (Bi)carbonate sitting on the surface. **Dry with a heat gun. The heat gun is what accentuates the velvety look and feel of the surface.** If your pieces are too powdery, this means you still have Sodium Bicarbonate to remove.

If you want to refine the finish, you can follow the rough sanding with finer grits (500, 600, 800). If there is translucent clay in your veneer, you will obtain a lovely satin lustre.

Europe	USA
180	150
500	360
600	400
800	500

Comparing sandpaper grit standard in Europe and USA