

# POLYMER CLAY 101 – GETTING STARTED

## What is Polymer Clay?

Oven baked modeling clay – not actual mineral clay

Basic Ingredients: PVC resin and liquid plasticizers



## Polymer Clay Brands

You can read online for more info of the brands and recommended uses for each polymer clay brand. I primarily use Kato Clay for making pen designs.

**Sculpey Premo!** – <https://www.sculpey.com/>

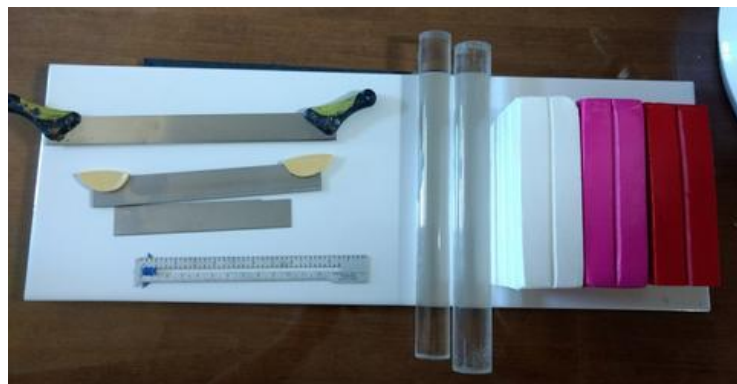
**Kato Poly Clay** – <http://katopolyclay.com/>

**Fimo**  
– <https://www.staedtler.us/en/>

## Polymer Clay Tools

*Video - Getting Started with Polymer Clay Tools*

<https://youtu.be/b5fOwVXH6M>



### Tissue Blades

### Acrylic Rollers

### Miscellaneous

- Clay Cutters
- Clay Extruders
- Sculpting Tools
- Measuring Tools
- Baking Trays / Racks



# Polymer Clay Craft / Pasta Machines

Craft / Pasta Machines are used with polymer clay to help condition, mix colors, or create skinner blends.

- **Conditioning** is the act of restoring the clay to a state close to its original factory-mixed condition.
- Polymer Clay can be mixed like paint to create new colors or mixture of colors you want to achieve.



Video - Mixing Clay Colors - <https://youtu.be/nMyRjzo35Q>

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Amaco / Sculpey / Makin etc. – found at many local hobby stores

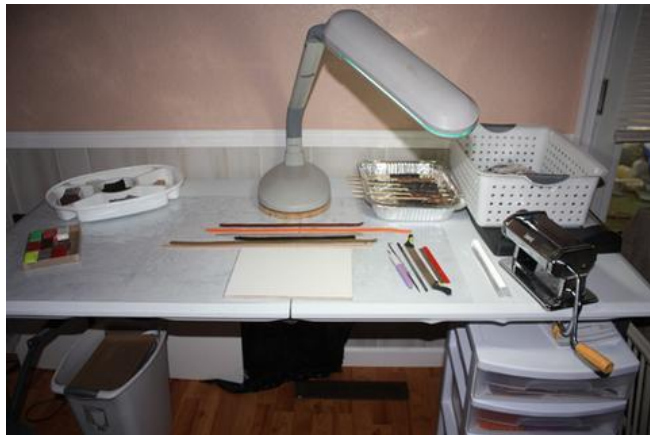
Marcato Atlas 150mm or 180mm – w / optional motor

Modified Atlas Pasta Machines – <http://monakissel.com/toolspasta.html>

Lucy Clay Tools – <https://lucyclay.com/tools/>

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## Work Surface – Cool, Smooth, Clean



**Work Surface** – ceramic tile, glass or metal desk, must be easy to clean

**Good Lighting** – I use an Ott Natural Daylight Lamp

**Polymer Clay Storage** – cool location, away from sunlight, plastic containers - recycle numbers 1, 2, 4, and 5. Sheets do better between plastic layers such as lamination pockets. Canes may be wrapped in parchment paper, with the knowledge they will leach over time.

Test any storage options you choose for leaching or moisture buildup.

**Leaching** – removal of oils and other lubricants from the clay.

## Making Polymer Clay Canes



### Millefiori - History of Cane Making

(Italian: [mille'fjo:ri]) is a glasswork technique which produces distinctive decorative patterns on glassware. The term millefiori is a combination of the Italian words "mille" (thousand) and "fiori" (flowers) *Citation: <https://en.wikipedia.org/wiki/Millefiori>*

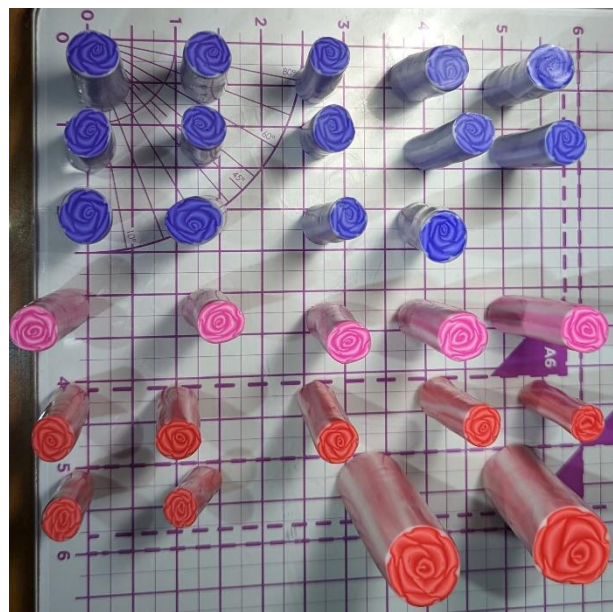
Making canes with polymer clay is similar in techniques originally learned by artists creating millefiori. Polymer clay canes can be hand-made or purchased online. It all depends on how much time and energy you can devote to learning the necessary skills. Whether you make or buy canes, it only takes a few dollars of clay per pen tube, so the cost of clay is minimal. What can be expensive are the tutorials and tools you may want to purchase to help you get better.

For more info, please visit my canemaking tutorial.

<https://ptownsubbie.com/pages/polymer-clay-cane-making>



**Skinner Blend** is the gradation of colors from light to dark and creates beautiful depth, helping to make your cane designs look more realistic.



You can create skinner blends with two or more colors. The rose canes pictured above are created using skinner blends - each Kato dark color (red, violet, and magenta) with white.

## How to Make a Basic Flower Cane

Blend the colors you want for your flower components including (1) center and up to (8) petals. Depending on the style of flower design you want, these petals can be either solid colors or a skinner blend of many colors.

1. For better contrast, add a thin black (or white or translucent) layer to the polymer clay canes. Pinch the sides of the cane circle to create triangle or slight u-shaped canes.
2. Create a pattern or design in the clay you want to use for your cane. To maintain the petal formation, add wedges of colored or translucent clay between the petals to create a square or circle before reducing. Reduce the cane by gently rolling and stretching until it is the length / diameter desired. There are dozens of how-to videos on the internet if you cannot come up with your own designs.

**Packing** is process of backfilling around core cane components to maintain petal formation.





## How to Make a Rose Cane

1. Cut the skinner blend cane into two, rolling the second half a smaller diameter.
2. Cut the two canes into smaller pieces about one inch long. The center piece can be smaller. Flatten the smaller cane pieces with a slight bump in the center, showing the different colors on each end of the pieces. The center piece may be rolled into a small jelly roll. The larger cane pieces can have a larger bump. The bumps become the petals of the rose. If using a gradation cane, make sure to put the dark side facing center.
3. Wrap the rest of the smaller pieces around the center jelly roll, alternating light and dark colors on top. I like to add a translucent contrast to the outside of my rose designs, or you can add white or black polymer clay to fill in around the petal formations. Reduce the cane by gently rolling and stretching until it is the length / diameter desired (usually around eight to twelve inches).

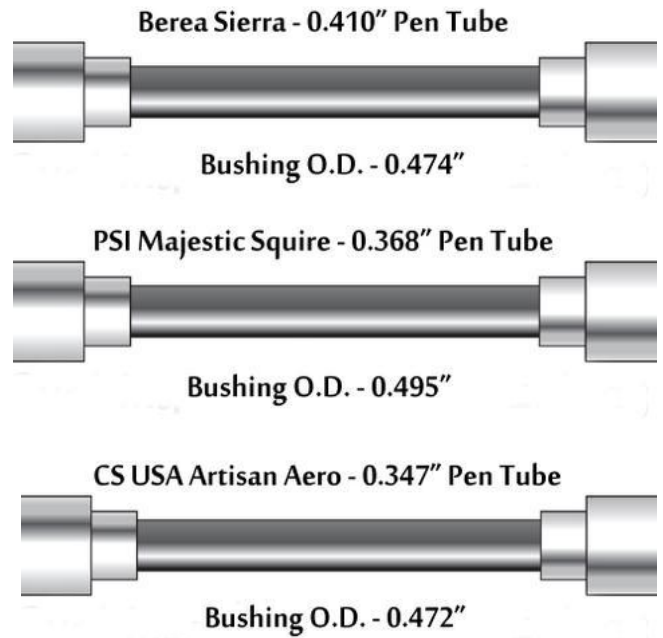


# Pen Making Supplies

**Pen Kits** – Pen kits include all the components for making the pen style of your choice, including the pen tube, on which you will bake your clay creation. Here are some examples.

These pen kits are available from the manufacturers or various resellers, online and at local retailers / stores. Search for pen kits online, and you will find what companies are available in your area, or just ask us for a reference.

**Bushings** – bushings are used as a guide to match the outer diameter of the finished blank. Depending on the pen kit's depth and length you choose, the amount of clay needed may vary quite dramatically.



**Pen Mandrel** – pen mandrel, metal rod (with or without threads) or wooden dowel that fits through the bushings and tubes, helps to smooth the clay to the correct height / profile.

**Lathe** – to help with turning oversized polymer clay tubes. Lathe, drill, or dremel may be used to buff or apply a finish on your clay.

**Pen Press or Vice** – to help you assemble the pen kit once the clay tube is finished.

# Creating Pen Blanks

There are two basic methods in applying unbaked clay to the pen tubes, either in cane slices or sheet designs. Please visit my pen making tutorial for a video demonstration - <https://ptownsubbie.com/pages/polymer-clay-pen-making>

## Using Canes to Make Pen Blanks

Cane slices can be thinly sliced and layered over a base of polymer clay or thickly cut and placed directly onto the tube.

1. To determine thickness of polymer clay slices, the main difference depends on how you plan to finish the pen. We describe how to apply either translucent layered thin slices or single thick slice designs below.
2. As mentioned before, packing or backfilling the flower design will allow the petal formation to remain intact. If you lose the desired petal formation, the reduced cane or individual slices can be manipulated afterwards by pressing a long bamboo skewer along the sides to create petal indentations on the flower pattern.
3. For thin slices, apply a thin base of polymer clay to the pen tube. Make the base lower than the bushing requirements. Avoid trapping any air between the clay and tube or air bubbles will form when baking. For thick slices, apply until the tube blank is filled to meet or exceed the bushing height as desired. Some artists like to cure their pen tubes with glue prior to applying the clay in either method.
4. To complete the thin sliced pen blank, add thin slices of your chosen cane to the base, gently rolling flat in between layers. Depending on the type of pen tube you have chosen, it will take 18-30 small thin slices of cane to fill to the pen bushings. Avoid using too much pressure when rolling or it can distort the details of the clay design. Make the final clay thickness to be meet the bushing requirements and enough necessary for your chosen profile design and sanding impact. As stated before, the thick slice pen blanks either meet or exceed the pen bushings depending on how you plan to finish the pen.

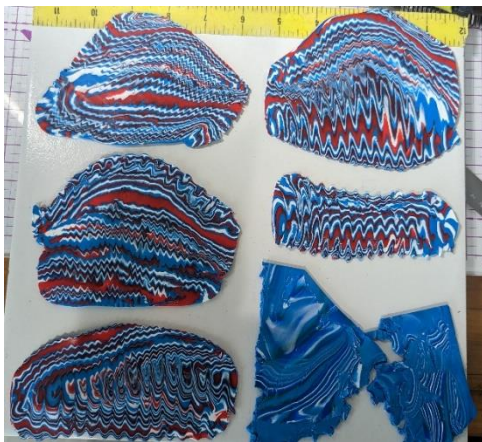
## **IMPORTANT POLYMER CLAY PEN MAKING TIPS**

- The number of polymer clay slices varies according to the size of the blank, the number of other clay elements you want to use, and bushing height of the pen kit desired.
- Thin sliced designs do not allow for margin of error and cannot be corrected with finishing. They must be measured correctly to meet the bushing height or it will remove the thin clay designs during heavy sanding or turning.
- Thin slices must be cut paper thin to bake clear enough to see through to the next layer of clay beneath on the pen tube.
- Raw clay is very absorbent and will collect any dirt or other clay particles from your work surface or hands, so it is important to keep things clean as possible.



## Sheet Designs / Textured Pen Blanks

Sheet designs in either thickness are usually measured for the rolled out dimensions of the tube (length x circumference) and decorated in patterns as desired. Some sheet designs have topical patterns or textures. Clayite and Mokume Gane are some of my favorites.



# Baking Options

Countertop / Toaster Oven



Kitchen Oven / Range



I have used both toaster oven and household oven to bake clay depending on the brand of clay - usually somewhere between 225-300 degrees Fahrenheit. Time also varies according to how many tubes I am baking at one time, they can stay in the oven from 15 - 45 minutes. Cover with a foil tent or second foil pan helps prevent browning with some clay brands.

*It's important to know the actually oven temperature to properly bake the clay. Having a good oven thermometer will help you monitor for temperature spikes.*





# Turning Polymer Clay

Oversized clay pen blanks can be turned to meet the bushing requirements of your chosen pen kit. It turns most like acrylic or softer woods and can be finished with CA or your favorite topcoat product. Keep in mind turning clay blanks may remove thinly sliced cane images or change the patterns depending on how you make your clay sheet designs. Polymer clay is softer than most woods you may apply it to, so there will be a noticeable difference in the areas filled with polymer clay (related to hybrids or other filled voids).

## How to Finish Polymer Clay Pen Blanks

It's easier for me if I trim the ends before baking, but if you aren't sure how long the ends need to be for your chosen pen kit, you may need to use sand paper or sanding mill verses a pen mill to finish the ends.

### Smooth Pen Blanks

My pen blanks are designed to not require any turning to complete a pen, but whether it's ready to use or you turn it down on a lathe first, all polymer clay pen blanks look better after light sanding and buffing, especially the translucent areas.

If you want a high gloss finish (this method is best done on a lathe):

1. Wet Sand – Abranet or comparable brand (usually 320-600 grit)
2. Apply Mercury Thin CA glue (alternatives - Ren Wax, Hut Clear Coat, Craft Coat, Varathane Floor Finish, various water-based clay glazes )
3. Micromesh (standard 1,500 – 12,000 grit pads)

For a natural matte finish, you can buff:

1. By hand, with a rough cloth, such as blue jeans material
2. By drill / Dremel using a buffing pad
3. By buffing wheel

### Textured Pen Blanks

My textured blanks have been sealed in liquid translucent clay, so the polymer clay texture has to be sized for proper fit to meet the nib. You are welcome to gently buff the blank, keeping in mind any harsh sanding may remove or damage the applied texture, paints, mica powders, glitter etc.



## Casting Polymer Clay

If you want to cast your clay designs after adding texture, paints, or other surface adornments, you need to make sure to undersize the clay so you will only turn away resin. Clay casts best in an epoxy resin in the appropriate tube-in silicone mold like we sell at PTownSubbie. Pressure pot is not mandatory for epoxy casting, but if you already have one, it helps to prevent any large bubbles from forming on the surface of the pen blanks.

Casting your clay creations makes the pen blank just like other resin pens. You will need a lathe to turn it to bushing size, then use the same sanding, buffing, and plastic polish your normally use for a finish. **Sharp tools, soft touch when turning, to avoid delamination.**



<http://www.ptownsubbie.com>

## Other Ways to Use Polymer Clay

Polymer clay may also be used as a backfill for blank voids, or to create a texture in your foil pen designs. I apply a thin layer of polymer clay to the tube, add a layer of foil tape, and add the texture I want in the unbaked clay through the foil tape. Lastly, I apply whatever colorants – Rub n buff, acrylic paints, mica powders, glitters, or liquid clay.

I also sometime use liquid polymer clay on top of the foil for additional colorant features.





## My Favorite Polymer Clay Pens



Thanks for reading my polymer clay class curriculum!

If you have any other questions, or would like to see more tutorials, please visit our complete tutorial page. <https://ptownsubbie.com/pages/video-tutorials>