Polymer Clay Blanks

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What is Polymer Clay?

By PTownSubbie & MrsPTownSubbie

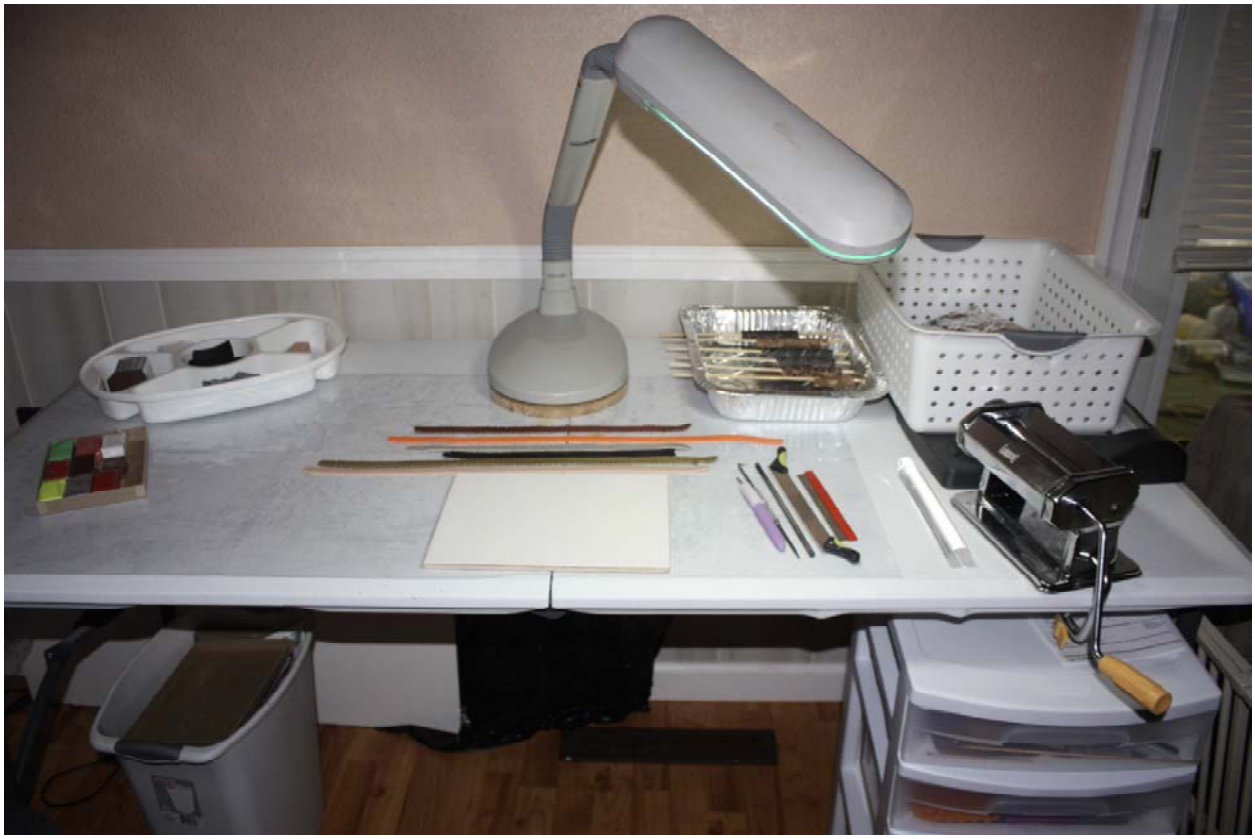
Polymer Clay is a type of oven bake modeling clay. It is primarily made of Polyvinyl Chloride (PVC), a hard plastic that is commonly used in construction and other industries, and some type of plasticizers which make the Polymer Clay soft and workable. The formula for Polymer Clay varies according to each manufacturer's specifications.

Polymer Clay needs to be conditioned prior to use, which remixes the color and PVC particles with the plasticizers. If Polymer Clay becomes too soft, it can be "leached" to remove excess plasticizers by placing between two sheets of white paper with a weight on top overnight.

As previously mentioned in the IAP library, there are several great offsite links to learn more about Polymer Clay designing in general, but it mostly takes time and practice to learn each new and different technique. This tutorial will cover some of the basics we have learned about Polymer Clay and how we prepare Polymer Clay blanks for turning.

We love how versatile and creative you can be with this medium, more so than acrylics and woods combined, which makes it a great option for pen blank material. You can mix and blend your own clay colors; paint with acrylics; or add metallic and iridescent powders, metal leaf and foils, glitter and embossing powders, sand, dried herbs, spices, and seeds. There's no end to the amount of creativity one can come up with, so our best advice is to sit back and ENJOY!!

Setting up a Workstation



You will need a few tools such as craft pasta machine used for clay conditioning and mixing clay colors, various sizes of acrylic rollers, and tissue blades for cutting the clay. Be aware these blades are extremely sharp, so PLEASE USE CAUTION! You may also want a clay extruder set and other sculpting and measuring tools at some point, but not all these tools are needed when first learning how to work with Polymer Clay.

We personally use a white ceramic tile for my work surface, but there are other surface options available as mentioned in this video[1] by Amy Crawley. We are a firm believer in "the best way that works for you," which is why there are several ways to set up your workstation.

[1] http://youtu.be/Y5UYS44UVTQ

Polymer Clay Supplies

Polymer Clay may be purchased either in-person at art and crafts stores or by shopping online at your favorite crafting venues. There are a variety of clay brands available, and depending on your personal resources and level of interest, that will determine which brands you want to invest.

Here are a few notes we have gathered on brands we have personally used over the last couple of years. There was a strength test mentioned on IAP by a company called Garie International[2], if you are interested in more information about these and other brands.

- Sculpey III: Soft and easy to work with. It is the easiest one to push through clay guns. This clay is available in 44 vibrant colors. The colors blend easily, which is good for color mixing, but is not as good for cane-work (millefiori). This clay is more brittle than others after baking.
- Fimo Classic: Stiffer than any of Sculpey clays, so it keeps the shapes and colors you want, making it a very good choice for cane-work. It comes in 24 bright colors.
- Premo! Sculpey: Softer than Fimo Classic, but stiffer than Sculpey. It retains flexibility in thin areas, making small details less vulnerable to breakage. It has a rich color palette, with at least 32 colors, some of which have mica-shift particles.
- Kato Polyclay: Maintains its shape and minimizes distortion, and has a minimal color shift when cured. The color of the raw clay is the same as the color you get after curing. There are 21 colors available.

[2] http://www.garieinternational.com.sg/clay/shop/tension_test.htm

Since clay brand baking instructions differ, our recommendations for baking Polymer Clay pen tubes will vary according to the brand(s) of clays used and number and thickness of the blanks created. We typically bake most of our pen tubes between 250-275◦F for up to 30 minutes.

Pen Tube Application

There are two basic methods in applying unbaked clay to the pen tubes: either with cane slices or sheet designs. Cane slices can be thinly sliced and layered over a base coat of Polymer Clay or thickly cut and placed directly onto to the tube. The main difference depends on how you plan to finish the pen.

If you plan to turn your Polymer Clay pen tubes, we recommend cutting cane slices thicker than the pen kit bushings to allow the pen blanks to be turned and finished using familiar penturner's methods.

Clay pens that have traditionally thinly sliced designs cannot normally be turned as it would remove the delicate patterns from the exterior of the pen design and show the underlying base clay color, but they are still quite attractive and challenging to create.

Cane Slices (Cane Making)

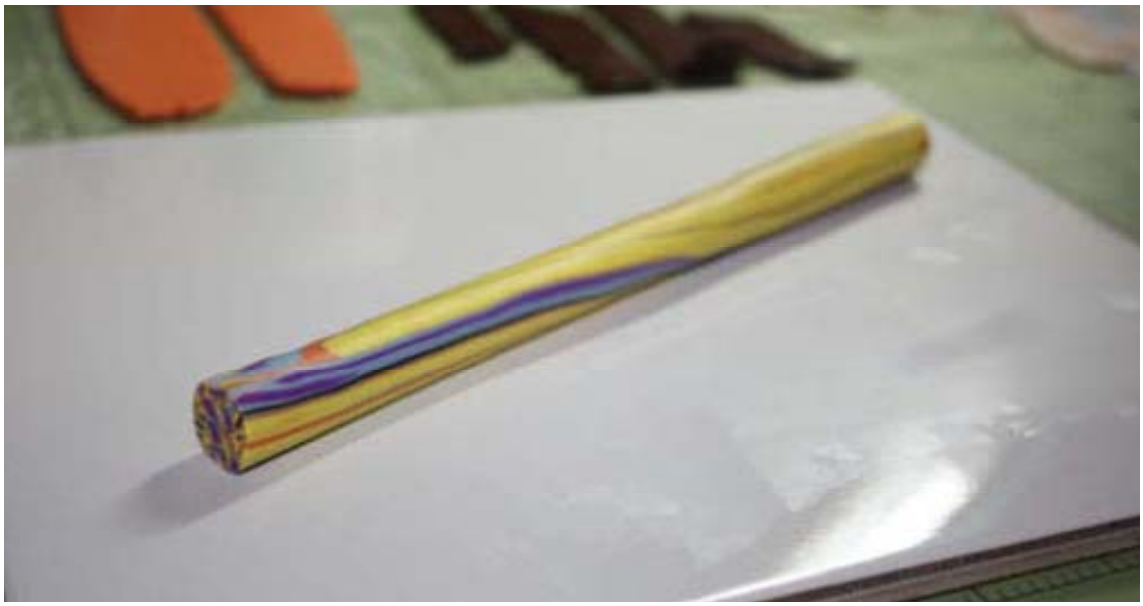
Making canes with Polymer Clay is similar to glass techniques by artists using millefiori. In glassmaking, the millefiori technique involves the "production of glass canes or rods, known as murrine, with multicolored patterns which are viewable only from the cut ends of the cane"[3]. Because Polymer Clay is quite pliable and does not need to be heated and reheated to fuse it, it is a much easier medium in which to produce millefiori patterns than glass. Polymer Clay canes can be personally made or purchased online.

Here is a simple example on how to create a Polymer Clay cane:

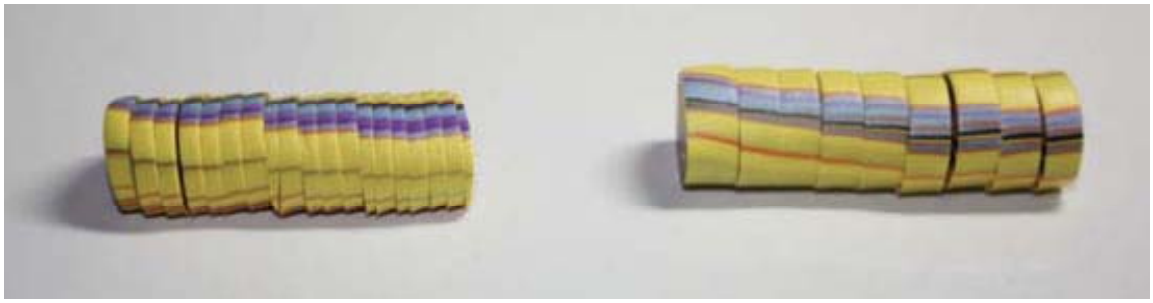
1. Create the desired pattern of Polymer Clay.

[3] http://en.wikipedia.org/wiki/Millefiori

2. Reduce the pattern down by gently rolling until it becomes the size of the cane you need for your particular pen tube design(s).



3. Slice the cane into thin or thick slices, as desired. More information is available in the next section of the tutorial on how to finish each of these cane slices.



Sheet Designs

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. The only recommendation we have for this design method is to not overlap the clay layers.

Sheet designs do not necessarily require sanding as they often have topical surface designs that include interesting textures such as faux leather or other attached design elements.

Some artists like to cure their pen tubes with glue prior to applying the clay in either method.

How to Make a Thin Sliced Polymer Clay Blank (not recommended for turning)

1. Roll on a base coat of Polymer Clay to the pen tube. Make the base coat thinner than the bushing requirements. Avoid trapping any air between the clay and tube or air bubbles will form when baking.

2. Add on thin slices of the Polymer Clay cane to the base coat to meet the height of the bushings. The thinner the slices, the less the pattern distortion, but also the less material to correct any baking imperfections.

How to Make a Thick Sliced Polymer Clay Blank (recommended for turning)

1. Add the thick slices directly to the tube. Make the clay thickness to be greater than the bushing requirements and enough necessary for your chosen profile design.

2. Roll on a base coat of Polymer Clay to the pen tube. Be aware that thicker slices have a higher probability of pattern distortion, but as long as you take your time, the pattern can remain intact, or distortion can be used to your advantage to make 3D effects with multiple layered designs. Trim the ends without exposing the ends of the pen tube.

3. After baking, the thick pen blank may be turned, sanded, and finished using CA or your favorite top coat.

Finishing a Polymer Clay Pen

The thick sliced pen blanks are turned to meet the bushing requirements of your chosen pen kit. Turning Polymer Clay requires sharp carbide tipped tools with light cuts and sanding. It turns most like acrylic or softer woods and can be finished with CA or your favorite topcoat product. Most people sand with 400 and 600 grit with the lathe running fast, then micro mesh from 2400 through 12000.

For more information about turning Polymer Clay, here is Fred Wissen (PTownSubbie) showing how to turn Polymer Clay blanks on a video:

http://www.ptownsubbie.com/images/videos/claypenmaking.wmv
or on YouTube.com at http://www.youtube.com/watch?v=xxziTfRJl1w