

Polymer Clay Testing 101

With Deb Wood



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Testing of Different Brands of Polymer Clay

Bake temperatures 230-265-275 F (110-130-135 C)



If you work with polymers, you know we are always on a quest for the perfect clay to meet our needs. I have been working with polymers for almost 30 years now and have tried nearly every brand available. Before I will commit a brand to my artwork, I do extensive bake and strength testing on that clay. This page is dedicated to showing you the process of those tests.

To the left you'll see a variety of different clays and colors, marked and baked. I store these tiles for reference later.

Looking closely here, you'll see "SS" on the tile to the left. This indicates that sample is pure Super Sculpey with nothing added.

Notice the spots in the tile below that sample. Those marks are what we refer to as a 'moonie', and are not a good thing! Our goal is to find a clay or clay blend that will eliminate this problem.

In this photo you'll see that same tile with the moonie marks, then one that says "2 P-1K".

This indicates this example is 2 parts Premo and 1 part Kato clay. This allows me to keep track of the results of the vast number of test tiles I have.

This example is of another polymer clay, **Kato clay** in the flesh color. This clay is remarkably strong, in my opinion, it is the strongest polymer clay available. It has some challenges in working with it-it has a more elastic quality- It's actually very flexible after baking.



Here is a shot of several samples. Notice the thin strands of clay, some tied in knots. I love this test! Very few brands can pass the knot test. I roll out thin strands of the clay, like a cooked spaghetti noodle. Bake these according to the manufacturer's instructions. Once the clay is cool, bend the strand to see how strong the clay is. If it doesn't snap, then continue and tie the clay into a knot, pulling with a fair amount of pressure.



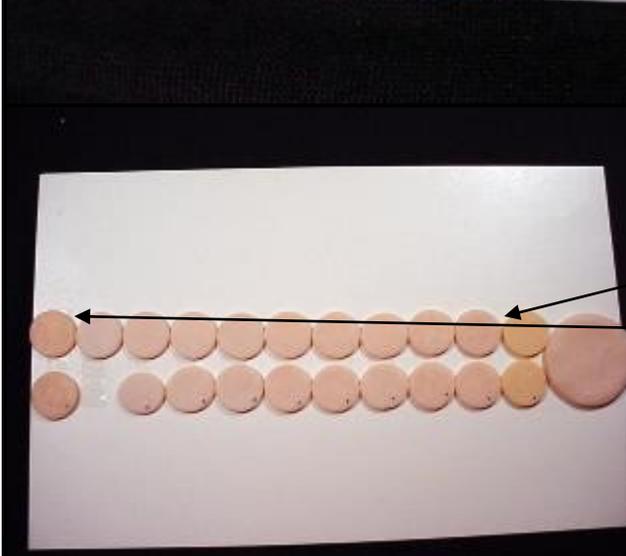
You'll see the clay turn a lighter color where it's strained, but some clays won't break! This is so important so we can create art that will last a lifetime or longer for our collectors. The brands that will pass the knot test are Kato, Puppen Fimo and Cernit.



Looking closer now, you'll see that I have written on the tiles so I know exactly what is in that example. While I mark the front with a needle tool before baking, the writing just makes it easier to reference later. Also, you'll see the sample marked "Cernit Nougat". This is a straight sample, nothing added. I do this because some clays look very different after baking from what the color appears to be in the package. We don't want any surprises, so I bake a sample first- that way I'll know what the finish color will look like.



I also bake simple hands, then see how much pressure it takes to break a finger. This is so you will know how your sculptures will stand up, based on the clays you choose to use.



In this sample, the blend is 2/3 Natural Puppen, 1/3 Fimo Flesh #43, and a small amount of Fimo Classic white #0. The next sample is Rose Puppen mixed with Porcelain Puppen. We still can see the moonies...

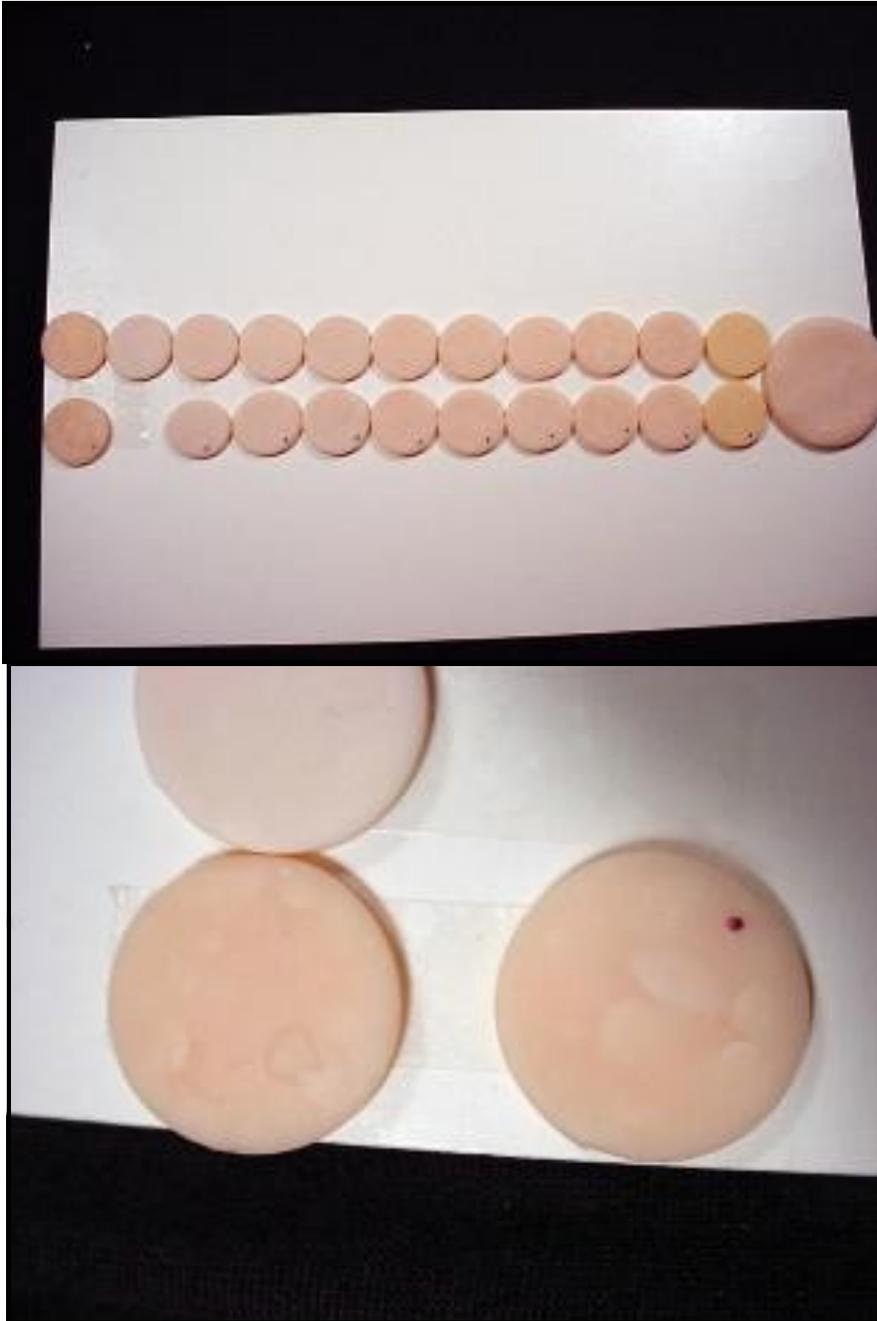
The addition of a solid pigment clay like white Fimo Classic #0 does seem to help mask the moonie problem. It also tends to work out those air pockets that cause moonies) since the white takes a good deal of energy and time to get worked into the clay. So, adding white actually serves two purposes. It helps to hide the moonies and assures the clay is completely conditioned.

(See my tutorial on clay conditioning)

The two sample tiles to the left of the large example are straight Fimo Classic flesh #43. I put them on this card so I could compare colors after baking. I was amazed at how much more yellow the Fimo Flesh color was. The large sample is also put there for color comparison. That example is Natural Puppen, Classic Fimo Flesh and Classic Fimo white. We can still see a few moonies. Moonies are caused by air, trapped below the surface of the clay. Once heated, they expand and cause the surface of the clay to lift, like a blister. Because the clays are more translucent, you can see the trapped air pocket. Again, a close up view of what we want to avoid.

Once I established which combination of colors of the Puppen clay made the nicest flesh tone for my use, I made a sample card. Each example, starting way to the left, has a little more white added- until we come to the last example, #10, which was my best result. My goal was to get the best color and translucence and still avoid moonies.

Way to the left is straight Puppen in Rose color. The next single sample is 2 parts Rose and 1/4 of 1 part white. They continue with less and less white - until sample #10, which is 15 parts Rose Puppen and 1/4 of 1 part white.

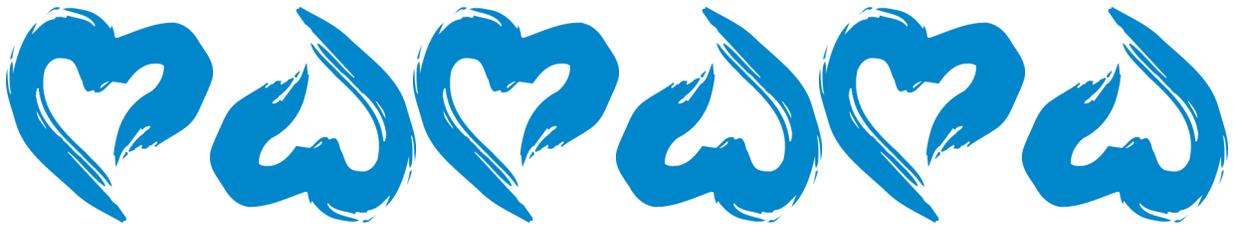


Also, the small black mark on the lower row of samples indicate these tiles were baked in a preheated oven.

The other row was baked starting with a cool oven. Some people feel that starting your sculpt in a cool oven will avoid problems. I found no difference whatsoever, and don't recommend starting your sculpt in a cool oven because some ovens spike during the preheat cycle. A spike in temperature could be disastrous for your clay. Also, some ovens preheat with both the bottom and top elements heating up and this too will scorch your work.



By now you have probably figured out I am pretty fussy about testing clay and the performance of these clays. For years I worked as a product tester and demonstrator for the major US distributor of polymer clay products. I learned a lot in the process. One thing I am most passionate about, and that is correct baking of polymers. It is a scientific, chemical process. That process should not be 'tweaked' to meet a certain need of a user. Follow the directions on the package of the brand you are using. Do not under-bake your clay, as that will lead to crumbling later and very fragile clay! Bake for the full amount of time, and the correct temperature as indicated on the label. Use oven thermometers in the oven to make sure the oven is baking at the temperature you THINK it is. I actually use two thermometers, and check them against one another, on either side of the sculpt while it's in the oven.



Proper baking is imperative for long lasting sculpture.

Please be aware that the time you bake your clay is not cumulative. Two ten minute bake sessions do not total a 20 minute bake- they total a 10 minute bake and that is not long enough for most brands.

There is a good deal of faulty information circulating around on clay baking, and I just want to encourage you to follow the information on the label for the brand you are using, and not the information in an instructional DVD. The author of that DVD does not know what clay you are using.

Follow these simple guidelines and you will enjoy great success in your sculpting.



Hope you enjoyed this tutorial!

Hugs, Deb

