



Photo Polymer Plates

A Must Keep

Product Review

Projects

by
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What are Photo Polymer Plates?

Photo polymer plates are plates made from light-sensitive polymer. (This light sensitive polymer is what is in most home stamp making kits, including Daylight and ImagePac sachets).

Photo polymer plates can come in different thicknesses and also with different backings, steel or plastic. (We have decided to just stock plastic, due to the difficulties of cutting steel backed).

Each plate is made up of 3 layers: a steel or plastic backing, a gel-like light sensitive polymer layer and a protective cover.

How It Works

The light sensitive polymer hardens when exposed to UV light. The unexposed polymer can then be washed off the backing, leaving you with a stamp.

To create your stamp you use a negative. This is basically a black and white print on clear acetate. The black areas are printed black, and the white areas are left clear (transparent). Once this is laid on top of your plate and exposed to the light, the light passes through the transparent areas of the negative and hardens these areas of your plate. The black areas of your negative stop the UV light passing through, leaving these parts of your plate uncured.

You then wash off the uncured areas of your plate

(which were the parts underneath the black areas of your negative), but you can't wash off the hard exposed areas, revealing your stamp.

UV Light

Any source of ultraviolet light can be used to expose a photo polymer plate. This can include sunlight, halogen lamps and UV lamps. Sunlight can be a very unreliable way. It depends a lot on the strength of sun, time of year, location, etc. A 50watt Halogen lamp is good but can get very hot, which can sometimes cure the polymer plate underneath the black areas of your negative. UV lamps are definitely the easiest and most reliable way. Even though they are a little bit more of a commitment, they will definitely pay you back. Here at Metal Clay Ltd, we use a 36 watt UV lamp. This consists of 4 x 9W UV fluorescent tubes. (As it cures in daylight, you have to be careful when cutting your plate, don't take too long otherwise it will cure in the sun and store your unused polymer plates in the dark).

Making Your Negative

You can make your negative in a few different ways: you can draw straight onto acetate with a dense black marker, stamp with dense permanent black ink straight onto acetate, or most commonly, print onto acetate. (If you don't have a printer you could pop down to your local copy shop, where they should be able to help you).

The most important thing when making your negative is that you want the black to be as black as possible. You basically want to stop the light passing through it. (You may need to experiment with printing settings for a bit to try and get the blackest print you can. The blacker the print, the better the stamp!)

One way to check your negative is to hold it up to the light:



As you can see, this acetate is not black at all, it is grainy and I can see through it, this would not give me a great stamp.

One way to solve this would be to layer your negative. Print two identical negatives and layer them on top of each other. You have to be very precise with lining them up, but it is a great way around the problem:



When making your negative, don't forget that the black areas will be washed away, so you may need to invert your image, so the black is now white and the white is now black.

Really thin lines and small intricate text can be quite risky, so those more delicate designs might require a bit of trial and error.

If you are printing your negative with an inkjet

printer, the negatives can be very fragile, they scratch and smudge easily with water, so be very careful and store them carefully. Try not to touch them too much.

Making Your Stamp

1) Cut your photo polymer plate to the desired size, with heavy duty scissors. (Try not to have the polymer plate in the light for too long during this stage. Be quick so you don't expose it to the light).

2) Peel off the plastic cover from the plate.

3) Arrange your exposure kit:



- Start with your wooden backing board.
- Add your bubble wrap.
- Add your PPP. You want the plastic backing facing down, and the side you have just peeled the plastic cover off facing up.
- Lay your negative on the top. Don't forget you want your image in reverse, so lay it printed side down, so its back to front.
- Add your layer of glass.
- Add your four clips to secure in place. Make sure none of the clips are over the transparent part of the negative.

4) Expose your assembled exposure kit under your UV light. Here at Metal Clay Ltd, with our 36watt lamp, we expose for 2.5 minutes.



5) Wash out your plate to remove the uncured photo polymer (the parts that were underneath the black area of your negative). You want to do this straight after exposure, otherwise the sun can start to expose the uncured photo polymer on your plate, ultimately ruining the stamp.

Wash out your plate by scrubbing your plate with your brush under running warm water. (Warm water helps to dissolve the uncured polymer, but you don't want it too hot as this can damage your plate).

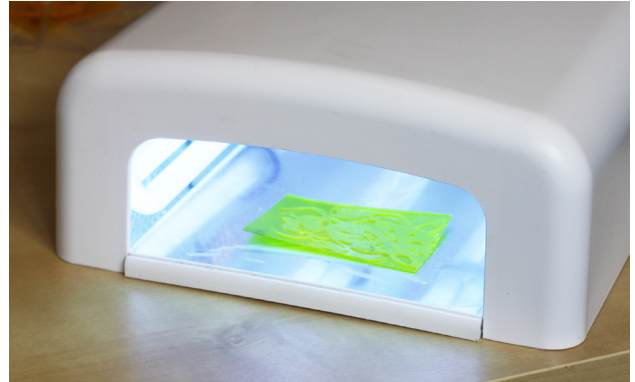


There are a few different ways that you can tell if you have washed your plate for long enough:

- There shouldn't be any foam left. This is not soap, just the uncured polymer frothing.
- You should see the clear backing sheet.
- The uncured polymer can feel slimy and sticky.

The wash out stage can take a while, around 5 minutes, so be patient. Once finished, leave your plate to dry, or dab it with some paper towel.

6) Re-expose your polymer plate to fully harden your stamp. We recommend to put it back into the lamp for the same curing time, so in our recommended case it would be 2.5 minutes. (You have to make sure that your plate is properly washed at this point. If you put it back under the UV light, the unwashed parts will cure and ruin your stamp).



Once your piece has been exposed for the second time, voilà, it's done and you've got a great new stamp!

You can use your stamp in the same way as other stamps and textures. Using some anti-stick solution will not only avoid your stamp from sticking, but it will also help to protect the stamp from the moisture in your clay. Exposing your stamp to too much water will cause the plate to deteriorate. Washing your stamp with vegetable oil is a great way to keep it clean and not deteriorate it.

It's not working!

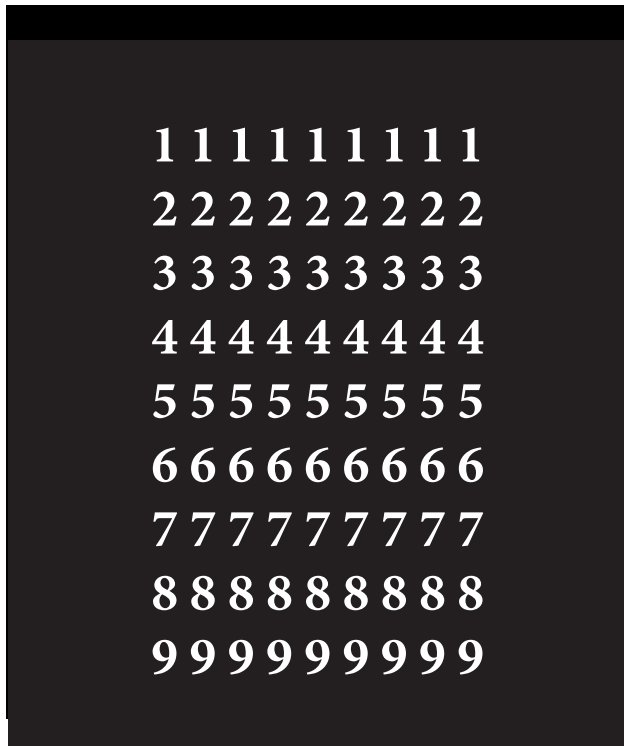
There are two main reasons why your stamp might not be working properly:

- Your negative is not dark enough. This seems like such an easy and unimportant stage, but the black has to be super super black. You don't want to see any light, grains, texture or anything when you hold it up to the light. You want it to be like black out curtains. Try the double layering tip from earlier, this always sorts mine out.
- Your exposure time is incorrect. If you have a different light to ours, or even if it's the same, you may need to alter your exposure time, here's how to test your lamp for the correct exposure time:

Testing Your Lamp

Figure out the correct exposure time for your lamp by doing a test strip. Here's how:

1) Print out a test negative similar to below. It doesn't have to be this one, but it has to have different rows/stages that you can identify easily.



2) Layer up your clamp as usual, but before you put the glass and clips on, place a piece of card over all the rows except row 1.

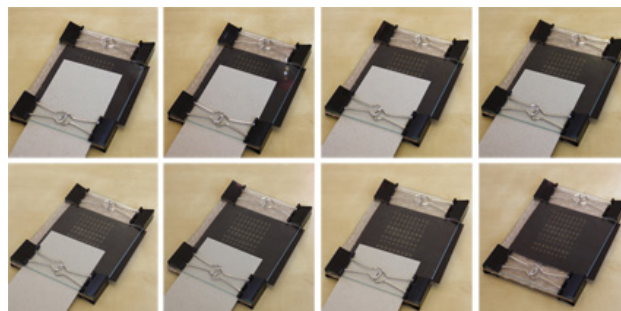


3) Start by exposing your plate for 1 minute.

4) Once finished, pull the cardboard down so that row 2 is now visible, and expose again for 30 seconds.

5) Once finished, pull the cardboard down so that row 3 is now visible, and expose again for 30 seconds.

6) Keep going until you have exposed all your rows.



7) Once you have exposed the whole of your test strip, wash it out as usual.

8) Once clean and dry, check your rows to see which one is best. (You are looking for the clearest row, and the one that is the most similar size to the original negative).

9) Once identified use the table below to work out your new expose time. Row 5 was our best row, hence we cure for 2.5 minutes.

Row 1	4.5 minutes
Row 2	4.0 minutes
Row 3	3.5 minutes
Row 4	3.0 minutes
Row 5	2.5 minutes
Row 6	2.0 minutes
Row 7	1.5 minutes
Row 8	1.0 minute
Row 9	0.30 seconds

If none of the rows are good, you could add extra rows and do it again. If two rows are close but not quite right, you could change the 30 second intervals to 10 second intervals for a more precise test.