UV Polymer Impressions

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This technique is a quick, easy and inexpensive way to create impression plates for use with metal clay. It is possible to make very detailed, crisp, stamping impressions that can be used over and over.

There are many kinds of UV polymer sheets. It is important to read through the instructions that come with the type you are using. In addition, experimentation will be necessary to achieve good results on a regular basis. This handout gives instructions for the Photopolymer Sheets available through Art Clay World, USA.

Set Up

You need to work in a space that has no sunlight and little to no direct artificial lighting. Incandescent lighting gives off less UV than fluorescent, but both sources give off some UV light that should be avoided. The simplest way to minimize the UV light hitting the polymer sheet is to make the light source indirect – that is if it is reflected light rather than direct light. If it is possible, work in a space where no bulb is visible and there is no sunlight.

Cut the UV polymer sheet with a paper cutter or heavy-duty scissors. Be sure that any time you are not working on the UV polymer sheet, it is covered with a black or other completely opaque covering. Any exposure to UV will begin the curing process.

The Artwork

Anything that is absolutely opaque will serve as a resist for the UV light source. This means a black print on a transparent sheet, a leaf, a piece of lace, paper cutouts, stickers, etc., will all work to keep the UV light from the covered areas of the UV polymer sheet. Do be aware that if you are using a transparent sheet with ink or printing on it, the pattern MUST be opaque or UV resistant. You may need to use several copies of the transparency taped together to make the image dark enough. If you are having trouble printing an image that is black, blow the image up really large and then reduce it. This will make the image darker.

Remember that anything black or opaque in the artwork will be RAISED in the final metal clay. Also remember that you are dealing with an impression in the metal clay that will be the reverse of the UV polymer sheet, so any design – especially lettering – must be placed on the UV sheet to read backwards.

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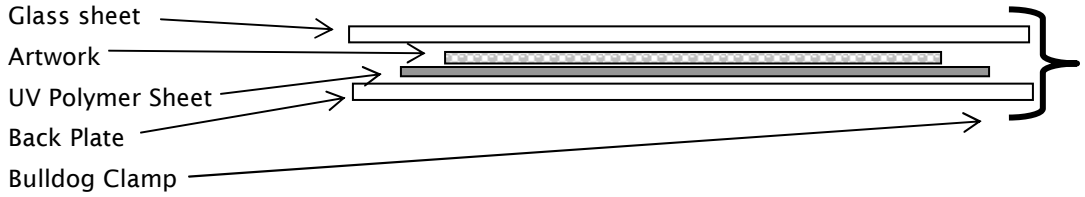
Exposing the UV Polymer Sheet

Any exposure of the UV polymer sheet to UV light will begin the curing process. To prevent light from sneaking around the edges of your design, it must be held down firmly to the UV polymer sheet while it is being exposed. To do this, use a firm plate on the back (wood, masonite or tile will work) and a glass cover for the front. Be sure the glass does not have a UV protective covering and that it is clean. Sandwich the UV polymer so it is on top of the back plate, with the artwork and the glass sheet on top of it. Be sure that the UV protective film on the UV polymer sheet has been removed. Clamp the sandwich down with small bulldog clamps on all four sides so the work will remain fixed during the curing process. Be sure that the sandwich is firmly held even in the middle. If the glass or back plate bows, it will allow UV light to go around the image and will not produce a clear image.



Exposure methods include sunlight, halogen light, UV lamp. The time of the exposure needed to cure the UV polymer will vary, so experiment to achieve the best results. For the small unit we have in class, a 50 to 60-second exposure works well.

After exposing the UV polymer sheet, cover it to prevent more exposure and take it to the sink. It is recommended that you wear gloves when working to remove the softened polymer. Exposure to water will soften the UV polymer that was not cured through exposure to the UV light. Warm water works faster than cold water, but cold water will work. Use a toothbrush or other small, gentle bristle brush to remove the softened polymer when it becomes milky. The softened polymer will feel slippery. Continue soaking and removing the softened material until the impression is eroded to the desired level. Be sure not to scrub too hard or small pieces of the polymer that are part of the design will be rubbed off as well.

Once the impression is complete, dry the UV polymer sheet with a hair dryer and re-expose it to the UV light. This will cure any small bits of polymer that were not removed in the washing process.

Use a light coating of Olive oil on the UV polymer sheet to maintain its flexibility and to avoid cracking. This will also help act as a release when it is pushed into metal clay.