RELIEF PRINTING WITH PHOTOPOLYMER

The minimum you will need to get started is..

- Photopolymer plate
- A source of UV light
- A small clip frame with spring clips
- A clear film, plain or sticky back
- Card, cutting mat and a knife
- Nail brush
- Printing ink or Golden OPEN

PHOTOPOLYMER PLATES

I make 7 plates on this course, most are only 8.5cm square so one A4 plate will get you started. These are exposed with a UV light source.

Toyoba Printight KF95 or KF152 is a plastic backed plate.
The K**F** means film.
The K**M** is metal backed (e.g KM95) which is very hard to cut.
The number refers to its thickness.
They also make a KF43, which is too thin for relief printing.

SUPPLIES TO CREATE NEGATIVES

Analogue: These are ones made by hand: cutting, painting and collage on clear film. You do not need all of these! I suggest you see what you have and watch the videos...

- Clear Film ie OHP film or Dura La CLEAR
- Black opaque paper
- Black sticky back vinyl
- Frisket Film (gloss), or transparent book cover film (not window film)
- Black gouache paint (not acrylic gouache) I use W&N
- Black Posca pen
- Vallejo masking fluid or Elmer's Rubber Cement
- Speedball water-based block printing ink, or Caligo relief ink
- Zig Opaque pen
- Rubylith film

Digital: These need a phone camera, an app and a printer.

- OHP film depending on your printer: Laser or inkjet. I use FOLEX BG-72. You will need 5 sheets.
- App: NotanIzer or photoshop etc
- Printer: laser or inkjet
- Clip frame - size depending on your light:
    - 10 x 15 cms for small nail lamps
    - 20 x 25cm for LED lamp
- Foldback Clips x 4 (or 6 if A4)
- Thin foam same size as frame (I use sticky back form craft sheet but it does not need to be adhesive)

PRINTING

Acrylic paint: Golden OPEN - it's better thickened with Akua MagMix or magnesium or calcium carbonate powder.

OR

Printing ink:

- Akua Intaglio mixed with Akua MagMix
- Caligo Safewash Relief Ink
- Hawthorn Stay Open
- Speedball Block printing ink
- Speedball Fabric ink for fabric

It's also possible to use ink pads; Ranger or Versafine.

Paper: Any paper can be printed on, smooth is better than textured. Plus spare paper to roll off ink.

Sundries:

- Pieces of thin plastic to attach plates to, it makes them easier to ink etc.
- Knife
- Scissors
- Cutting mat
- Masking tape
- Double-sided tape
- Tray for washing out plates(for small plates I use take-away tubs)
- Small scrubbing brush, nail or kitchen
- Paint brush
- Gloves

- Hairdryer
- Palette knife
- Roller. A hard roller is best for relief printmaking
- Palette/slab for rolling out.
- Baren, wooden spoon or press

PHOTOPOLYMER PLATE SUPPLIERS

I am using a Toyobo KF95 and KF152.

UK:

- Toyobo (Boxcar) Photopolymer Plate - Plastic-Backed - 0.95mm depth | Metal Clay Ltd
- Toyobo Printight Solar Plate KF95 - Intaglio Printmaker
- Platemaking - Lyme Bay Press - Letterpress Supplies - this company also sell a pack of offcuts.

USA:

- Unexposed letterpress plates, polymer plates | Boxcar Press - this company also sell a pack of offcuts.
- Cooltools Photopolymer Plate

Europe:

- Polymetaal Toyobo Printight A4 (21x29,7 cm) KF95M

Canada:

- Toyobo Cosmo Platemaking Services – Kiss the Paper - this company stocks them, but you need to contact them for pricing etc

Australia:

- Etching Materials - Solar Etching Plates-Printight KM95GR - A4 - Premier Art Supplies - these have metal backing, so you will need steel cutters.
- Grogan Group - this company are helpful, ring them and speak to Karen!

New Zealand:

- Email Dan Tait-Jamieson from Moana Press, he tells me he's the cheapest, tell him I sent you: moanapress@t-j.co.nz

NEGATIVE FILM

You will need film to print your negative design on. The choice is down to either inkjet or laser...

- Film is often sold as screen print transparency film, it is used to create positives for screen printing, another photopolymer process.
- Some only take a print on one side, others print on both sides.
- Most films are 100mm thick if you have a choice 135mm is thicker and stronger.
- Film designed for colour will work just as well as monochrome. Laser film will also work in photocopiers.
- Films are available by the sheet or in packs of 10/20/50/100.
- Overhead Projector film OHP is still available, you can often buy old boxes on eBay. They are the cheapest and the most readily available.

Laser printers: will not produce a black enough negative, I print three and tape them together.

Brands:

- Folex
- Grafix
- Papercutz

Links:

- A4 100Mic OHP Film, Acetate Transparent Clear - see through A4
- OHP Film Acetate Laser Mono Colour 135Mic 10 Sheets A4 OHP

Inkjet: Pigmented black ink is the best type to use with, as it prevents UV light penetrating through. *Never use these in a laser printer.*

Brands:

- Papercutz
- Stampmaker

Links:

- Stampmaker INKJET Artwork Film, A4 | Metal Clay Ltd
- A4 InkJet Film, Colourful Prints, Acetate OHP 10 Sheets

UV EXPOSURE UNITS

Options:
The plates we are using are exposed to ultra violet light. Unless the sun is shining you will need to find an alternative. The uses for UV lights are many and varied: industrial, commercial and domestic. Whilst you are learning the process I suggest you work small. The plates are expensive. If you find it is something you want to continue with then seek ways of exposing larger plates. Exposure times vary from 2minutes to 20 minutes depending on the lamp you use and the distance between it and your plate.

Here are a few options I have personally used over the years. I'm sure there are others but I haven't tried them, so I am unable to advise. I will be using four of the following and have tested exposure times for you. Once you understand the process using one is straightforward: The negative and plate are assembled into a tight clip frame, placed in the unit and exposed to UV light.

Cost:
The only new ones I bought as research for the course were the SUNUV £16.99 and the Speedball £58. Both from Amazon, the rest were eBay finds ranging for £5 - £50 .

Size:
I have listed them by the maximum size of plate starting with the smallest.

'SUNUV' Nail Lamp. Small LED bulbs. This takes longer than the rolling one and will only make small plates, but it works. The plate and negative is clipped into an A6 (10 x 15 cms) frame. **Max plate size: 8 x 8cm**

‘Mylee’ 36W UV Nail Lamp. This works well. Newer ones have small LED bulbs which are less strong. This one has 4 x 9w bulbs. The plate and negative is clipped into a 10 x 15 cms frame. **Max plate size : 8 x 12cm.**

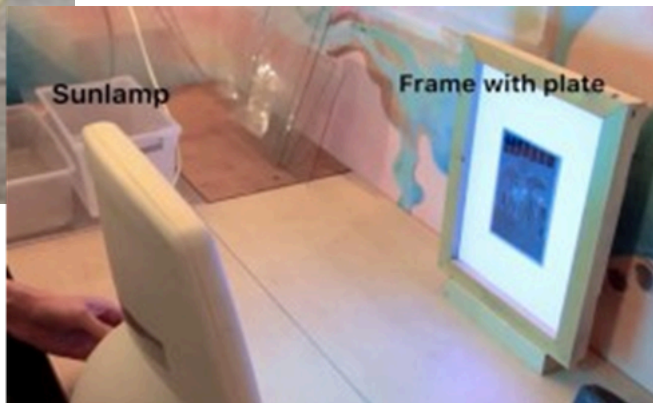
LED UNITS

Speedball 30W LED. This is designed for exposing silk screen photo emulsion. The science is the same as for our plates, but the difference is the thickness. **Max plate size : 15 x 18cm.**

Larger and stronger UV lights like this are available, these are EVERBEAM 50w and BOSITE 100w units. The plate size can be increased accordingly.

FACIAL SUN LAMP

You can still buy these new for about £100. This was my set up for a couple of years. To use it you work vertically: propping the clip frame with the plate up in front of the lamp. You need to leave the room whilst the timer clicks to protect your skin and eyes. Eventually I made an Exposure Box in the same way as for the Speedball unit using a glass topped coffee table. There are a lot of YouTube videos on how to make a DIY unit for screen printing or PCB's.



UV EXPOSURE BOX

This is a purpose built UV exposure unit sold for exposing printed circuit boards (PCB). They come in a variety of sizes. This size will take an A4 plate. There is no need for a clip frame as the plate lies face down on glass, the lid is closed and the plate is exposed.

Finally there's the sun! When I lived in Spain it was my UV lamp of choice ☀