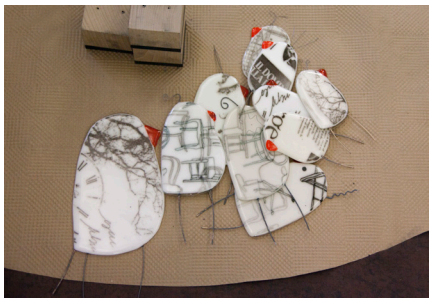
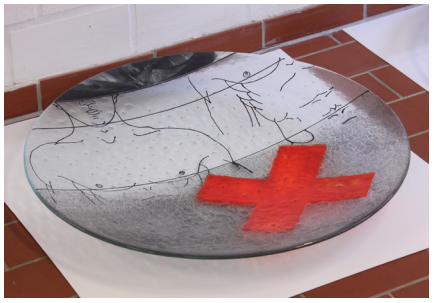
PROVETRO IMPULSE

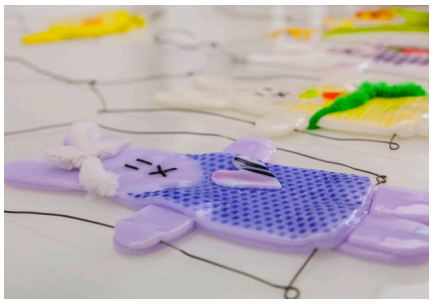
# POWDER PRINTING TECHNIQUE

## Material

3520500 screens with 55T (means 55 threads per sqcm)
3520504 photo emulsion for the screen, one-component
3520505 screen decoater, takes the emulsion away
3520506 screen degreaser, is cleaning the screen after decoating and before applying the emulsion
3520507 screen filler, for small holes and faults in screen and design
(3520504-3520507 is in smaller amounts in the starter kit 3520503)
3520510 coating trough for applying the emulsion
3520511/12 wood squeegee, the powder will be applied with this, size depends to the design
3520513 yellow light bulb (without any UV-light), the emulsion is UV lighted, you need a room without any normal daylight, otherwise the emulsion will be UV lighted and hardened and you can´t make any design.

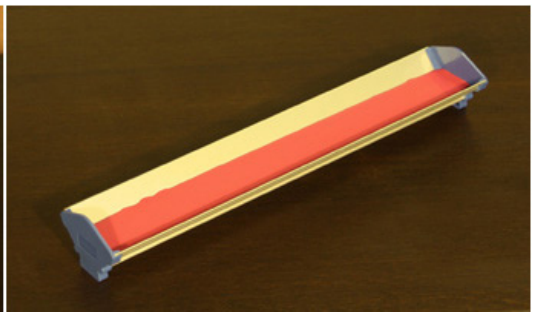






## Step 1 - Coating of screens

Take a screen and clean it with the degreaser. Let it dry completely. This is important for the emulsion. If there is any fat or dirt on it it can cause problems. Clean it with a sponge, make sure there is no dust on the screen.
Turn off all lights in the room, make sure there is no daylight in the room. Turn on the yellow light, take a screen, the emulsion and the coating trough.
Place the screen vertical towards a wall or a table. The screen side to the wall, the frame side to you. Fix it so it can´t move.
Pour the emulsion into the coating trough and let the emulsion flow even in each corner.



The angled side ( _| ) must show towards the frame.
Then press the angled side to screen, let the emulsion flow even to the screen. Then you go with light pressure along the screen. Like you see on the next pictures. But: screen placed on the other side, we will only cover the inner part of the screen!

Let it dry in a dark room without any light for a few hours. Approx 2-3 hours.

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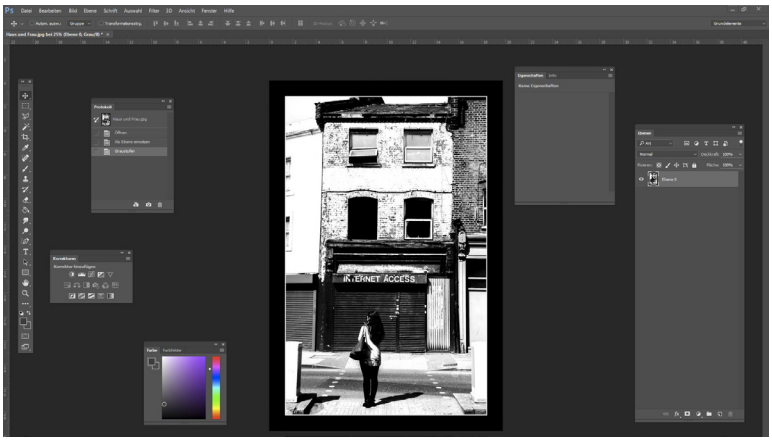
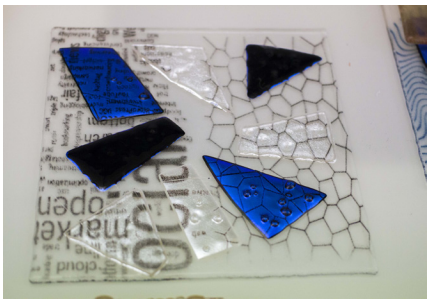
## Step 2 - Graphic part/ design

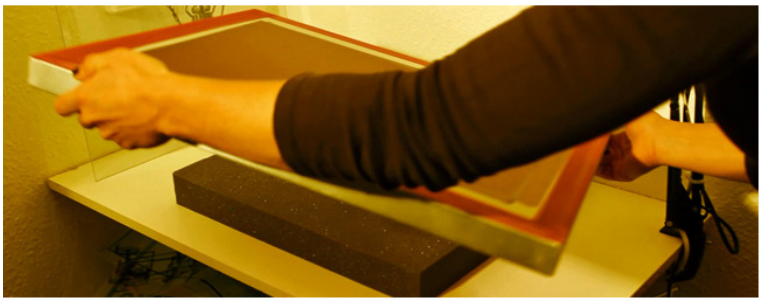
Prepare your design printed in black to a clear foil. The black must be really black, the printer must be print in photo quality. You can also draw something with a paint marker (3651003) to a clear foil.
You have to change pictures to a 2-colour design, only black and white (like stencils)! No grey scales! There are many possibilities with computer programs. The print must be in the same way like you want to have the print.
The black parts will be coloured after printing.
The black parts won´t get any UV light and this part will be washed out after exposure.



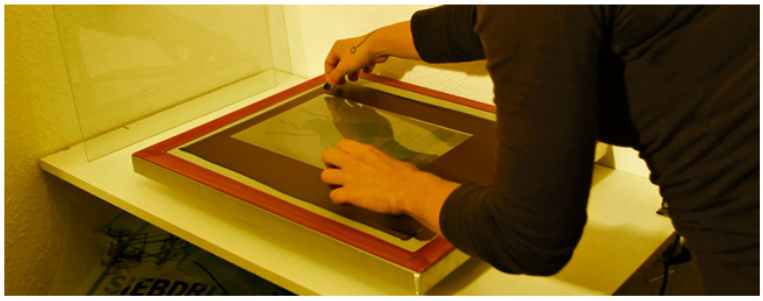



## Step 3 - Exposure

When the screen is dried, it´s ready for exposure.
Prepare a room without any daylight or any other UV light. Just use the yellow light bulb.
If the emulsion will get any UV light it will start to harden out and you will not get all details from your design!!!!
Prepare a UV-lightning table with a UV lamp (5098500). Place the screen with a styropor like you see here:




The styropor has to be in a size that will fit the inner frame and must be so thick that the screen lays directly and strong to it!



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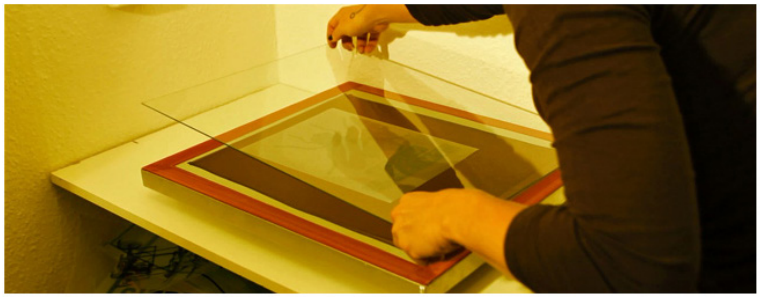
The foil must be placed mirror inverted directly to the screen.



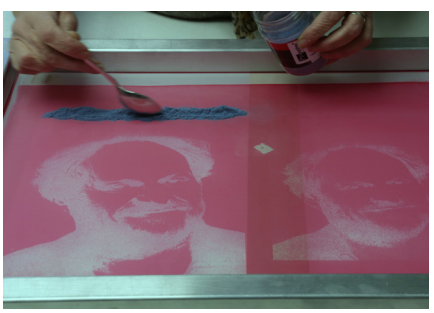
Place a clear glass over the foil, it must be big as the screen and it must press the foil completely to the screen.
Now you can place the UV lamp over the screen. Approx for our screen size in a distance of 65cm.
Please don´t look to the UV llight!!! Wear glasses or just turn around!
The time for exposure is approx 5 Minutes with our technique and our emulsion thickness. This can vary depending to the design and coating thickness and…….
When the time is over turn off the UV lamp and take away the glass, the foil and put the screen into a black box or into a black foil- the screen isn´t washed out yet and every light can cause hardening at the wrong parts of the screen.

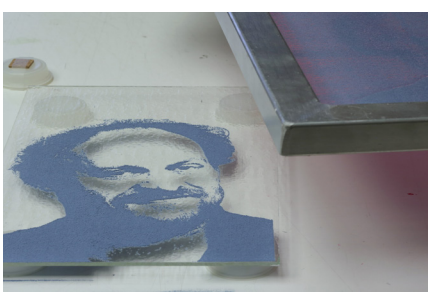
### Step 4 - Washing out the screen

Now the frame is ready to be washed out. We do it in a normal shower but we are using a small high pressure washer.
Place carefully water to the screen and let it soak for a minute. Now you can start washing out with more pressure. Have a look at your design in between to make sure all details are washed out.
Dry it completely and let it harden again a little bit in the normal daylight.
If you see after washing that there are small fault in your design because the emulsion is washed away too much or leaves small open points where they normally don´t has to be:
Use the screen filler. Take a smooth small brush and just paint the filler directly to the screen.

### Step 5 - Printing with powder

Place your basic glass onto small distance holders, the frame has to be placed over it (screen down). Make sure your design is over the glass. Sometimes it helps to mark the glass´ edges with a black painter. So you can see the glass through the screen. We are using small plastic cups you can stick into each other. So you can get different highs. The screen shall be placed 1-2mm over the glass surface not directly onto it.
The "printing" is not a real printing. If you placed glass and screen correctly you take the powder. Put it onto the screen beside the design. Then you use a squeegee to dispense the powder- go over the design 2-3 times, back and forward. The powder is falling through the screen onto the glass. The more often you go over it the thicker will be the powder the more intense will be the colour (6-8times, good for Full- Fusing). If you want to fuse with less temperature 2-3 times is enough.
Best is to make different tests first: Cut some smaller sheets and take glass powders in different colours. (for example Bullseye Tekta 1100 in 3mm plus powders –08) Try colours and temperatures.
Not all powders are working with the same temperatures and not all colours will be powerfull and nice. Take some time, use one design and print it in different colours (f.e. 1122, 1114, 0124, 0114…), fuse it with Tack- Fusing (720°C) up to Full- Fusing (800°C). Sometimes 5°C more or less is giving your design a totally different effect!
Mix colours by placing them alternately beside the design and then you dispense them together. This will give your design a nice colour variety. You can also plase one colour directly to a special place.





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Combine different designs: maybe print a graphic design for the background, then take away the screen carefully and place another design over it (maybe you have to make more space between glass/ powder and screen).
Fuse some designs, cut them, combine them, fuse them together again, you have all possibilities with this technique!

### Step 6 - Decoating the screen

You get the decoater in a concentrate version. Mix it with water: 1 part decoater, 25 parts water.
Fill it into a spray bottle.
Wear gloves and safety glasses!
Spray the decoater to the screen and let it soak for 5 minutes.
Then wash the screen with clear water. Use the high pressure washer for taking away every little piece of hard emulsion. Sometimes it´s good to turn around the screen.
Be carefull: Don't let the decoater dry on the screen.

### Step 7 - Degreasing

Degreasing is important after washing the emulsion away. You will take last parts of emulsion colour and cleaner away.
Mix the concentrate also 1:25, apply  alittle bit to the screen and wash it with a smooth sponge.
Let the screen dry and store it in a clean and normal temperatured room.

Now you can restart with a new project!