

LAIKA PRESS

Screen Printing Manual, aka Silkscreen, Serigraphy

136 Vesta St.

laikapress.org

SUPPLIES	mesh screen	blue tape	newsprint
	emulsion	screen printing ink	squeegee
	emulsion scoop	ink spatula	screen wash
	silicon spatula	palette glue	strip-e-doo
EQUIPMENT	darkroom	lightbox	flash dryer
	power washer	screen printing press	washout booth

PREPPING THE SCREEN

1. Make sure you are working in a dark setting. While we have a dark room, I keep the lights off in the studio when preparing my screens.
2. Take out the emulsion from the fridge, and bring your screen, emulsion scooper, and a trash bag with you to the dark room.
3. With the emulsion scooper, apply a very thin and even layer of the emulsion to the inside of your screen. Use the scooper to scrape off any excess emulsion.
4. Dry the screen thoroughly. Allowing the screen to dry overnight is best, but you can do this more quickly by turning on a fan and aiming it at the screen for 2-3 hours.
5. When the screen is dry, you can place it in an opaque, black trash bag to help keep light from exposing the emulsion.
6. Return excess emulsion to its container. Place emulsion in the fridge. Keeping it in a cool dark place makes it last longer.

PREPPING THE IMAGE

1. Our exposure unit works with two different kinds of images, photographic or line drawings. What these have in common is an opaque black line. Whatever is black is what will print!
2. For Line Drawing Images:
 - a. You can draw your image directly onto a piece of transparency with a black paint pen.
 - b. Or you can draw an image with sharpie on a piece of printer paper, scan and convert it into a black-and-white image in photoshop, and print it on an 8.5"x11" transparency.
 - c. Or, rather than printing a transparency, you can print onto a lightweight sheet of printer paper and soak it in baby oil.
 - d. NOTE: Drawing with Sharpie onto transparency is NOT OPAQUE. This will not expose.

3. For Photographic Images (Single Layer)
 - a. You will need Adobe Photoshop for this process
 - b. Open your photo
 - c. Click Image → Image Size → Adjust the Resolution to X Pixels/Inch
 - i. This resolution, X, should represent $\frac{1}{3}$ the mesh count on your screen
 - d. Click Image → Mode → Gray Scale
 - e. Click Image → Mode → Bitmap
 - f. Output: 720 pixels/inch, Method: Halftone Screen
 - g. You can play with the Halftone now until you find the desired look.
 - i. Frequency of 60 and angle of 45 should work fine, but if you see Moire occurring, follow steps from step (d) again, and fine tune the frequency and angle from there.
 - h. You can run a test print on 8.5"x11" paper to see if the moire effect appears. This should give you fair idea of how your image will look when screen printed.

EXPOSING THE SCREEN

1. Once your screen is dry and your image is ready, you are ready to expose (burn) your screen!
2. Place your transparency on the light box. The back of the sheet should touch the glass, so that the image looks legible to you.
3. Place your screen on top of your transparency so that the screen and transparency are in contact with one another.
4. Choose the wooden board that matches the size of your screen and place it inside the screen. On top of this, place bricks to weigh down the area of the image. The screen needs to be weighted, otherwise light will travel freely between the transparency and screen and will improperly expose.
5. Drape an opaque black cloth over the exposure unit, covering all four corners and draping down the sides of the light box.
6. Turn the time to 5 minutes, and let it run! Do not look directly at the UV light, as it is bad bad bad for your eyes!
7. After 5 minutes, quickly take the screen to the washout station.
8. Rinse with water, scrubbing with a sponge or your finger if necessary. You should see your image appearing on the screen. Make sure that all the emulsion is out of the screen where your image is, otherwise it will harden in your screen and prevent ink from passing through.
9. Congratulate yourself! You are ready to print something awesome!

PRINTING

1. Use blue painter's tape to cover any open areas on the screen along the edges where emulsion may not have been used.
2. Tighten the screen into the screen printing press.
3. With a spatula, scoop ink from the ink tub and spread it into a line along the far edge of

the screen.

4. Place newsprint underneath the image and make a test print (see step 5). There's no such thing as too many test prints. It's always better to make a bad print on newsprint than on a shirt or a piece of good paper!
5. To make a print, lower the press bed. Place your squeegee behind the ink pool, tilted toward you at a 45' angle. Applying medium pressure with your fingers, drag the ink toward you across the image.
6. Raise the press bed and you should see a beautiful piece of artwork!
7. IMPORTANT: flood the screen by passing ink across the image again. This prevents the ink residue in the screen's mesh from drying, which can permanently ruin your screen.
8. Rest your squeegee on top of the screen, leaning against the back.
9. Move your print to the drying rack, and repeat until you're happy.

CLEANING THE SCREEN

1. Wipe up as much excess ink as you can with the squeegee, and replace into the ink tub.
2. If you're using *water-based* ink, remove screen from press and take to a sink. Wipe excess ink off with a wet rag. Set the screen aside to dry.
3. If you're using *plastisol* ink, spray down screen with ink solvent. Using a rag or paper towels, wipe off ink until screen is pigment-free.

STRIPPING IMAGE/RE-USING SCREEN

1. Apply StripeeDoo all over emulsion. Do not let dry, but let soak 20-30 seconds.
2. Power wash entire area of emulsion. Do not leave any stripeedoo on the screen.

HEAT SETTING A SHIRT

- If you're screen-printing shirts, you'll need to heat set your image, which will make the ink permanently fixed to the fabric.
 - To use our flash dryer, turn on and make sure temperature is set to between 100-120°C.
 - DO NOT TOUCH the panel when on. Use the handle and back part of machine to move.
 - Place 2-3" above printed surface for 30 seconds for plastisol ink, 1-2 minutes for water based ink.
 - At home, this can be done on *natural fiber shirts* with an iron applied directly to the fabric on the highest setting. The ink must reach 300°F for approximately 1 minute.
 - For *synthetic fabric shirts*, place a sheet of newsprint over the ink. Iron on top of newsprint at a medium-high setting. If the iron is too hot, it could melt the shirt.