

Gowanus Print Lab

Silkscreen 101 Workshop

Studio Tips

Preparation

While using the Print Lab studio you have free access to provided materials such as squeegees, spray adhesive, inks, scoop coaters, cups and mixing sticks, various tapes, rulers, t-squares, scissors and the chemicals associated with coating, cleaning, and reclaiming screens.

Keep in mind that the studio is a place where things can get very messy where heavy equipment is in use. Therefore, proper clothing is required.

- Always wear shoes that will keep your feet protected, no sandals or open toed shoes.
- Apron or Expendable clothing: you will get ink and/or chemicals on your person, so expect to get dirty.

Helpful Materials to bring with you for a Print Session:

- Sharpie marker
- Newsprint for test prints
- Box Cutter or Utility Knife
- Abrasive Sponge

Bringing in your own screen printing ink is not necessary, but for specific colors or types of ink, you may want to consider providing your own ink. Be sure that any ink you bring in is specifically suitable for screenprinting, as not all inks are compatible with the screenprinting process. Most art supply stores have a section of screen printing supplies where you may find a variety of helpful and inspirational supplies. **Artist and Craftsman Supply at 307 2nd Street at 4th Avenue** is nearby the print studio, with several other locations in Brooklyn and Manhattan. **Blick Art Supply** also has a wide variety of screen printing materials.

Screen Mesh

Silkscreens have a range of mesh counts, each being useful for different aspects. A large number (ie, 305) indicates a narrow mesh, while a low number (ie 110) indicates a wide mesh. Some screens are composed of white fibers, others use a yellow fiber. The yellow fibered screens achieve a higher degree of detail, whereas white fiber has less capacity for detailed designs. Some common mesh counts:

305: Used for very detailed designs where a lot of fine lines are important. Often used with waterbased ink.

196: Used to achieve a balance of detail vs. ink coverage

155: Used to achieve a balance of detail vs. ink coverage

110: Used for designs composed of solid shapes. Often used with plastisol inks.

86: Only used in specific circumstances where very heavy inks must be applied. Not capable of fine detail. Not to be used for most cases.

Inks

Several types of inks are used in the silkscreening industry. Most commonly are waterbed inks and plastisol inks. Both of which are available in limited colors for free when using the studio. Black and white are generally available, other colors are limited.

Plastisol: Plastisol ink is a suspension of plastic that remains wet until exposed to high temperature apx 325° for several minutes. It requires chemicals to clean up.

Waterbase: Water-based ink air dries in 10-20 minutes, though for textiles, still needs to be heat set for a permanent, wash-safe print. It cleans up with water only.

Discharge: Discharge ink is used for textiles to bleach out the the fabric directly. It is used in a 2 part mix of Base and Powder Additive. It cleans up with water only.

Glitter: Glitter Inks are available in waterbed or plastisol varieties. Its larger particles often require a wider screen mesh, so a 305 screen may not be appropriate for some glitter inks.

Foil: Foil Prints use a two part process. The silkscreen print is composed of an adhesive ink that is transparent and is treated like a plastisol ink. The Foil is then applied via transfer with a heat press.

Printing Substrates

When choosing the substrate (material you will be printing on), you will usually be choosing paper or fabric goods. Various papers and fabric goods for your prints can be acquired from the art supply stores, and many people for their papers use French Paper (<https://www.frenchpaper.com/>) for their paper goods.

For blank T-shirts, tote bags (<https://www.cheaptotes.com/>), and other textile products, various suppliers can be found online. Tshirts can be found in small packages at 99¢ or general stores in their clothing racks, such as Hanes, Gildan or Fruit of the Loom, etc.

Printing Checklist

The printing process generally proceeds along the following steps. If at any point in the process you are unsure how to proceed, inquire with the Studio Manager on duty or your instructor.

1. Allocate Screen: Acquire the screens you will need for your session. Decide the mesh and screen size according to your artwork and the ink you will be using. You may need to **Clean the Screen**.

1a. Clean Screen: If necessary. New screens may need to be **Degreased**.

2. Coat Screen: In the darkroom, use a **Scoop Coater** to coat your screen with **Emulsion**.

2a. Dry Coated Screen: Allow the emulsion to dry. Average drying time is one hour, but times can vary depending on humidity or how heavy your coating is.

3. Print Artwork Film: While your **Emulsion Coating** dries, you can take that time to print your artwork onto an **Acetate Transparency**.

4. Shoot Screen: Once your emulsion coating is dry, use the Exposure Unit to shoot your screen. Use the appropriate exposure time for your screen Mesh and Screen Color posted at the exposure unit.

4a. Wash Out Screen: After exposure is finished, immediately remove your artwork, bring to the cleaning sink and wet both sides of your screen. Allow Emulsion to stand wet for up to 1 minute. Wash with hose on low or high pressure as necessary. Once your design has been fully cleaned out of the emulsion coating, set the screen aside to dry.

4b. Dry Exposed Screen: Allow your screen to dry after washing it out.

5. Secure a Print Station: Based on your project, reserve a station at a press or table as needed. For multiple color designs, you will need access to a Multicolor Press Carousel, which may require advance booking.

6. Prepare Inks: Select the specific ink color you will be using for your project. Make sure the ink is either plastisol or waterbase, depending on which you decided in Step 1.

7. Prepare Materials: Select your Squeegee, acquire materials like spray adhesive, tape, etc. Set your substrate (ie, T-shirts, paper, etc) aside where it will be easily accessible while you print. You may want to lay down some contact paper underneath it to be sure you do not pick up any ink from previous users sessions.

7a: Tape-Off Screen Margins: Once your screen is completely dry, tape off the edges where there is no emulsion, between the screens frame edge and the Emulsion Coating. This prevents ink from escaping during the printing process. You may want to check the emulsion for any undesired holes or pinholes, and tape them off with masking tape as needed.

8. Commence Printing: Begin printing. It is helpful to make your first few prints on a test material like newsprint or discarded T-shirt.

8a: Flood Pass and Print Pass: Each print consists of a Flood Pass, where you bring the desired amount of ink over the design in your screen with a slight angle and light pressure on the squeegee, followed by a Print Pass, where you move the ink from the Flood Pass through the screen and onto your substrate with approximately 45° angle and firm pressure. Both the Flood Pass and the Print Pass begin at the base of your design furthest from you, and are pulled towards you. Do not vary the direction of your pull.

9: Clean Up: Once all of your prints are complete, begin the Clean Up process. Scoop all excess ink out of your screen and conserve or dispose of properly. Remove the screen from the table or press and bring to the Cleaning Sink. Depending on plastisol, waterbased, or other ink, wash out accordingly. Clean your Squeegee. If you are finished printing this design, you must Reclaim your Screen.

9a: Reclaim your Screen: If you no longer intend to print this screen, reclaim the screen.

9b: Put Away Equipment: Replace your cleaned squeegee and all other studio materials back where they belong. Squeegees, tape, and sprays belong at the front of the studio on the rack. Inks in significant quantities placed back on the ink shelf, all trash in trash bins, make sure you have retrieved all your prints from the catch bins or drying racks.

9c: Final Steps: Lastly, make sure you leave a clean printing station. Any Ink spills should be cleaned up. Make sure all trash generated is placed in trash bins, take away all your equipment and private belongings (usb sticks, acetate films, etc) from all sections of the studio (Print Station, Cleanout Sink, Darkroom, Exposure Unit, Computer Lab, and the Lobby), and make sure all studio equipment is stowed properly. If you are a Member or a Workshop Participant, speak with the Studio Manager if you need space to store your screens. If your apron or work clothing has received any plastisol ink, you can run it through the dryer to prevent bringing any wet plastisol ink home with you.