

STUDIO GUIDE: APPAREL PRINTING

PREPARATION

Keep in mind that the studio is a place where things can get very messy and 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.

Materials to bring with you for a print session:

- Clear packing tape
- Extra test shirts
- Sharpie marker
- Cleaning sponge
- Disposable or yellow cleaning gloves
- Mixing cups for ink

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 extremely fine details and halftone.

230: Used for fine lines and very detailed designs.

196/200: Used to achieve a balance of detail vs. ink coverage.

155/158: Used to achieve a balance of low detail vs. ink coverage.

110: Used for designs composed of solid shapes and large text.

INKS

Several types of inks are used in the silkscreening industry. Most common are water based inks and plastisol inks.

Plastisol: Plastisol ink is a suspension of plastic that remains wet until run through a conveyor dryer until it reaches a temp of 375°. This ink requires chemicals to clean up.

Glitter & Metallic: These inks are available in water-based or plastisol varieties. Its larger particles

often require a wider screen mesh - 110 mesh or below.

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.

Water-base: Water-based ink air dries in 10-20 minutes on paper but **MUST** be cured through the conveyor dryer for textiles to be heat set for a permanent, wash-safe print. It cleans up with water and simple green.

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

If you are printing a large run, desire a specific color, or looking to print with a particular type of ink, you may want to consider providing your own. Be sure that any ink you bring in is specifically suitable for screenprinting, as not all inks are compatible with this process. Most art supply stores have a section of screen printing supplies where you may find a variety of helpful and inspirational supplies. For speciality inks, **Total Ink Solutions** located in New Jersey has a vast selection of ink, while **Victory Screen Printing Factory** located in Jamaica, Queens and **Holden Screen Supply** located in Manhattan, carry everything from screens to textile inks in both water based and plastisol.

An **Artist and Craftsman Supply** and **Blick Art Supply** are extremely convenient as they have locations in both Brooklyn and Manhattan, however their prices are a bit more expensive.

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. T-shirts 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 screen/s you will need for your session based on these three aspects: Screen size (according to the size & placement of your artwork), mesh count (how detailed the design is) and the ink you will be using.

1a. Degrease Screen: Studio screens or new screens *must* 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 20-30 min depending how heavy your coating is and the mesh count. Lower mesh counts will take longer to dry vs. higher mesh counts.

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

4. Expose Screen: Once your emulsion coating is dry, use the *Exposure Unit* to expose your screen. Be sure to attach the acetate to the t-shirt side of the screen and use the appropriate exposure time for your screen Mesh and Color posted on the time table.

4a. Wash Out Screen: After exposure is finished, immediately remove your acetate, bring to the cleaning sink and wet both sides of your screen. Allow Emulsion to stand wet for up to 1 minute. Wash with the pressure washer 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. Place in front of fan for faster dry time.

5. Secure a Print Station: Based on your project, reserve a station at a press or table as needed.

6. Prepare Inks: Select the specific ink color you will be using for your project. Make sure the ink is either plastisol or water based, 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 wipe down the surrounding table surface so it's free of ink or residue.

7a. Tape-Off Screen Margins: Once your screen is completely dry, tape off the edges where there is no emulsion, between the screen's 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 scotch tape as needed.

8. Commence Printing: Begin printing! It is helpful to make your first few prints on test materials like newsprint or a 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, water based, 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 belong at the front of the studio on the rack. Inks in significant quantities are 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), 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.