A COMPREHENSIVE PREPARATION GUIDE IN PHOTOGRAPHIC SILKSCREEN PRINTING

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Serigraphy is considered as the oldest form of printing. It originated from the prints, woodcuts and block prints of the Song Dynasty (960–1279 AD), and later to the Japanese in the 15th century, the time when artists employed the technique to transfer designs to silk fabric. Serigraphy was ultimately introduced to the West late in the 18th century, but it didn’t hold on until the early 20th century when silk mesh was more available, and a profitable market was discovered. The Europeans first used serigraphs to print luxurious wallpaper made of linen, silk and other fine fabrics, but as the market developed and techniques became more refined, serigraphy emerged as a valuable industrial technology. In the 1980s, stencil making is usually done using paper and film stencils. These stencils however limited artists to produce only the designs that can be cut easily. Elaborate and fine line designs were avoided because they were too hard to cut. But the silkscreen printing business could not survive without catering to these demands of modern times, especially in this age of digital printing where computers can practically create every design imaginable and transfer it on a t-shirt.

Luckily though, a technology was developed to enable fabric printers to make elaborate, fine line and yes, even picture like design stencils. This technology uses photo sensitive chemicals which react to the ultraviolet rays from a light source to produce a hard film. So if you block a portion of the light source, it will not harden unlike the portions that are exposed. This gives the artist the opportunity to create a film like stencil from any shaded drawing on transparent or semi transparent material placed in between the light source and the silkscreen applied with the photo sensitive chemical called photo
emulsion. There are different brands of photographic emulsions in the market and every one of them offers good quality of results. This preparation guide however is in line with the product requirements of TULCO printing supplies.

To begin with, here are the materials needed:

- TULCO Photo Emulsion
- TULCO Sensitizer
- TULCO photo hardener

- Squeegee
- Exposing device
- Blower

- Timer
- Packaging tape (2”)
- Textile paint (printing ink)

Design printed on a transparent/ framed silkscreen (10” x 12”) empty can (top removed)

- Semi - transparent paper
- Dishwashing liquid
- Sprayer

Black cardboard (illustration board will do, should fit inside the silkscreen frame)

After preparing all the materials, be sure to work in a room illuminated faintly or with a red light bulb so as to avoid premature exposure of emulsion and follow these steps:

1. Clean the silkscreen with dishwashing liquid to degrease it so as to avoid pinholes on the stencil and fill the sprayer with water.

2. Blow dry the screen.

3. Mix 1 part of sensitizer with six part photo emulsion in the empty can.

4. Apply the mixed chemicals on the screen using a squeegee. Make sure you cover the whole screen and remove excess emulsion leaving only a thin coating on the screen.
5. Blow dry the emulsion on the screen.

6. Place the transparent paper with design on top of the exposing device and position the screen on top of the design. Make sure the design is at the center of the screen.

7. Cover the screen with the illustration board (black portion facing down). Make sure it is pressed firmly against the screen to avoid reflection of light back to the screen.

8. Expose the screen by turning on the exposing device for 3 minutes.

9. Wash out the portions that are to be removed from the screen using the sprayer.

10. Blow dry the silkscreen and tape the edges so as to avoid leaking of printing ink or textile paint.

11. Apply photo hardener on both sides of the screen to strengthen the film.

12. Test print the silkscreen on a piece of cloth before printing on actual garment.

References:

CEDAR HILL LONG HOUSE, What is Serigraph Printing?, September 19, 2018
https://cedarhilllonghouse.ca/blogs/what-is-serigraph-printing/

https://www.youtube.com/watch?v=SZIAK0Qs5Vg