

# Saturday Workshop

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*at Pete's Counter Sales*

**Welcome, we hope you find today informative!**

This Brochure is designed to be a reminder of your day.

We will be covering a lot of information and hopefully once you go home and try out your new techniques this booklet will act as an aid.



Screen printing does not need to be expensive nor difficult.

One last note, please remember that you are meant to make mistakes; it is the best way to learn and who knows you may accidentally stumble across a new printing technique that takes the world by storm!

The most important thing to remember is to relax and enjoy yourself; that 's what it is all about.

## Ongoing improvements....

This course was carefully designed by Amon & Shivaun Leis, under the supervision of their father, Mr. Peter Leis - Screen Printing Extraordinaire !

The idea of this workshop is to give you some basic techniques and understanding of how you can create your screen and print at home, without a great deal of expensive or having access to specialized equipment.

We are continually trying to improve and would appreciate your feedback.

Version 2:1

January 2008

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Special points of interest:

- Emulsion is cured, or hardened, by the UV light spectrum, the Sun is a great source of UV.
- With practice you will find that overcast days do not create a problem.
- We have been able to expose a screen even in a light sprinkle.
- If at first you do not succeed don ' t worry no one gets it first time around.

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## Equipment list

- ☞ Screen
- ☞ Soft bristle brush
- ☞ Degreaser or alternative
- ☞ Access to water
- ☞ Safe light room or area (including a cupboard)
- ☞ Emulsion coater or alternative
- ☞ Vacuum Bag
- ☞ Dark Backing (i.e. dark fabric)
- ☞ Board
- ☞ Thin Rope
- ☞ Outside Area
- ☞ G-clamps
- ☞ 2 x pieces of wood
- ☞ Surface to print on
- ☞ Material for lining
- ☞ Squeegee
- ☞ Sticky tape
- ☞ Spray Adhesive or double sided tape
- ☞ Newspaper
- ☞ Rag
- ☞ Fabric or Stock to print on



**Screen, Squeegee, Hinge Clamps & Ink**

Important Terms: There are two sides to the Screen

The **PRINT SIDE**: this is the side that you place downwards to print.

The **SQUEEGEE SIDE**: this is the side that you run the squeegee over when printing.

## Preparing your Screen

The first thing we do is DEGREASE the screen.

Why? Because the screen will gather grease and dirt from it's surroundings, we need to ensure that that surface of the screen is clean, that way the emulsion will stick to it.

- ☞ Wet both sides of your screen
- ☞ Apply the degreaser to both sides
- ☞ With a SOFT bristle brush, on both sides, work in the degreaser using a circular motion
- ☞ Leave it to sit for approx. 10 min
- ☞ Rinse off with cold water
- ☞ Allow the Screen to dry in as close to a dust free environment as possible
- ☞ You can use a heater to dry the screen, but do not use a fan forced heater , as that will blow dust around)

We use a soy based product that has no hazard warnings, but the alternative is to use a cheap no perfume, bells or whistles laundry powder that has been mixed with water to create a smooth paste.

Notes:

## Coating Your Screen with Emulsion

- ☞ You will notice our SAFE LIGHT room. Unlike photography you do not need a dark room.
- ☞ We have used yellow light and you can achieve the same results with a few sheets of cellophane paper (just do not apply it directly onto a warm bulb)
- ☞ The emulsion is sensitive to UV light when it is dry. While the emulsion is in wet form it will not expose
- ☞ The emulsion that you will need to use is determined by the inks you are printing with. See table below and to the right
- ☞ How many coats do you need? Well this depends on how much ink you want to print down.  
Example: T-Shirts Vs. Plastic  
T-Shirts are quiet absorbent so you will print more ink so the emulsion coat need to be thicker.  
Plastic is not absorbent so you will want to print less ink, therefore the emulsion coat will need to be thinner.
- ☞ As a general rule for fabric printing on T-Shirts we coat : 4 on the Print side and 2 on the Squeegee side.
- ☞ The coats on the print side are to saturate the mesh. The thickness of the emulsion is determined by how many coats you do on the squeegee side; as you are pushing the emulsion through to the print side.
- ☞ If you don't have an emulsion coater you can use you squeegee with some ends taped on the side. If you do use this please remember to make sure that there are no sharp edges that could scratch the mesh
- ☞ The screen will now be let to dry. In the industry we dry the screen horizontally, at home you can dry it against the wall, on an angle, with the print side down.



**Emulsion Coaters**

### Notes:

### Emulsion Recommendation Table:

Degreaser	For cleaning the Screen in preparation for the application of Emulsion
For Printing Fabric / Textile	As Textile Dyes as water reducible you will require a water resistant emulsion. We term this a Textile Emulsion
For Printing Paper / Card	There are a wide variety of water reducible paper and card inks now available, including acrylic paints. Therefore you will require a water resistant emulsion. We term this a Textile Emulsion
For Printing Ceramics	Ceramic Inks or pigments also tend to be water reducible, however some may contain a "frit" which can be quiet course and harsh on the emulsion. As a result their are tougher emulsions available for this particular printing process. We term this a Ceramic Emulsion
For Printing Plastics	As most plastic Inks are solvent based you will require as solvent resistant emulsion. We term this a Graphic Emulsion
For Printing a variety of Materials	If you will be printing with both solvent based and water reducible Inks or Inks with a high White Sprit base, you will require an emulsion that is resistant to both. We term this a Wide Process Emulsion
Emulsion Coaters	These are troughs used to coat the screen with the emulsion. We term them Emulsion Coaters but they may also be know as Applicators

## Exposing in the Sun

The best time of the day to expose your screen in the sun is the morning, the light is clearer.

- ☞ Place the positive on the screen (emulsion side down) and tape it down to ensure it stays in position while we move the screen around
- ☞ Place the screen in the vacuum bag, ensuring that the writing on the bag will not be in the way of your design
- ☞ Place the dark backing on the squeegee side, this stops the light from bouncing around and exposing the underside of the emulsion
- ☞ Place the board over where the image is, this is for stability
- ☞ Place the thin rope from around the frame to the air outlet, this helps all of the air get sucked out of the vacuum bag
- ☞ Seal the vacuum bag
- ☞ Suck out the air with the vacuum and quickly replace the cover
- ☞ The vacuum bag is to make sure that the image is flat against the emulsion as possible, with no air bubbles, this is so that no light can get in between your image and the emulsion.

The screen will need to be placed at 90 degrees to the sun, so that the sun hits the screen straight on. It is best to have the area prepared with a guide before you walk your screen out

Paper positives will take longer to expose than film positives, as the paper hold back a lot more light. Try exposing the paper positive for double the time you would use for a film positives.

You will need to do tests to find the correct exposure, however as a guide:

- ☞ On a bright Sunny day: two (2) minutes for film
- ☞ On an very overcast day: up to about thirteen minutes for film
- ☞ On a very light rain day: about twenty minutes for film

Each time you do an exposure in the sun write down

- ☞ The daylight conditions
- ☞ How long you exposed the screen for,
- ☞ Make a note of the results

and you will have the information for next time.

If you have an old SLR camera use this to take a light reading.

Once the time is up take the screen out of the vacuum bag and wet both sides, this stops the emulsion from continuing to expose.

If you leave the screen wet for a short time the emulsion that has not exposed will be easier to wash out, also if you use warm water at about 22 degrees.

This is now termed a Stencil.

How to tell if your screen is underexposed (not in the sun for long enough)

- ☞ There will be a color variation from where the positive was placed and where the sun was directly on the emulsion
- ☞ The underexposed emulsion will have a lighter look

How to get around this.....

- ☞ Do not wash out the image on the squeegee side, as this has not directly hit the sun it is considered to be the weaker side of the stencil
- ☞ Try not to wash the screen for a long period of time. The more moisture the stencil has in it, the more chance it has of being damaged
- ☞ You can wash the screen, leave it to dry in your safe light room, wash it again, and so on until you get the results you desire.

Finally leave the screen to dry before printing

Notes:

## Set up to print on your dining room table

You will need a surface to print on, you may need to lay down a piece of extra fabric underneath where you are printing. This will make a nice padded and protective printing surface.

The below guide lines will not always occur in the exact order that they have been written, but you will get the hang on it as you go.

- ☞ Get sticky tape and tape out the edges of the screen
- ☞ Lay down the two pieces of wood at a right angle, with one side right in front of you, we will call these your printing brackets.
- ☞ Clamp the pieces of wood so that they will not move while you print
- ☞ Lightly spray the area with Spray Adhesive, or alternatively double sided tape. This stops the material from moving while you print.
- ☞ For T-Shirts ensure that there is a divider inside the shirt, and the divider should be sprayed with the adhesive; like a piece of thin wood or a newspaper.
- ☞ Make sure that you know where you want the material to be positioned and place guides, so that every time you place a new piece of fabric down it is in the same position.
- ☞ Place the material that you are printing onto in position.
- ☞ Place the screen on top ensuring that it is securely against the printing bracket.
- ☞ Place the ink in the screen
- ☞ Print towards yourself

Please note that Hinge Clamps will make printing easier, but they are not essential.



Notes:

# Printing Techniques

## Flood Coating

Pulling the Squeegee towards to is called a print stroke.

Pushing the Squeegee away from you is called a flood stroke

Once you print in most case you should move the squeegee back over the image, with no pressure, coating the image in a layer of ink, this is the flood coat (you are flooding the image with ink)

This achieves two things:

- 1) It stops the ink from drying in your screen during position of fabric
- 2) It fills the stencil with ink for the next print stroke

## Squeegee Angle & hints

- 1) You are not meant to push the ink through the mesh, think of it more as cutting the ink off
- 2) The angle of the squeegee should be around 67.5 degrees (half way between 45degrees and 90 degrees)
- 3) For correct pressure think of a straight line from the knuckles on you hand straight down to the edge of the blade. If you put to much pressure on the squeegee, you will put to much pressure on the mesh and cause drag or smudges

## Fabric Printing

As fabric has an elastic property during printing it needs to stay in one position.

This means if you are printing multiple colors you have to print all of the colors before moving the fabric.

Note: you need to dry the colors in between to make sure there is no ink transfer on the underside of the screen, you can use a hairdryer to take the tackiness out of the ink

You will need to heat set (cure) the textile dye so that it does not come out when you put the garment in the wash. In most cases you can cure the ink with an iron; on the hottest setting that the fabric can

take, with NO steam or water.

It is not how long you apply the heat, it is the temperature that the ink hits that causes it to set. See the information sheet for the inks you are using.

## Paper Printing

This also applies to any rigid surface.

As paper does not distort when you move it, when you are printing multiple colors you print the first color on each piece, let them dry, and then set up to print the next color and so on until all of the colors are printed.

## Blend Printing as a Squeegee Technique

This is a great way of practicing your squeegee technique.

Place two colors side by side on the screen, so that they will mix in the middle. As you are printing try to keep the ink cross over line as straight as possible.

You can do this by looking at the ink in front of your squeegee, and NOT looking at your hands. You should always be looking at what the ink is doing this technique will teach you to do this.

Notes:

*at Pete's Counter Sales*

Ground floor, 11 North Street  
LEICHHARDT NSW 2040  
(not North Ave)

Phone: (02) 9560 1646  
Fax: (02) 9550 0020  
E-mail: [info@screenprintinggear.com](mailto:info@screenprintinggear.com)

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**1988 - We grew up Screen Printing**



**Other useful information....**

Paper Positives:

- You can make great paper positive through you A4 printer. You will need to familiarize yourself with the Advance Properties in you printer dialogue box
- ☞ Choose the best quality, slow print.
  - ☞ Choose the best quality paper (even if you are using plain paper)
  - ☞ You need to put down as much ink as possible
  - ☞ Set the Contrast to high, and the Brightness to low
  - ☞ If you have the option only print with black ink

If you hold your print up to the light and the print looks grey or you can see through it, it is not considered to be a good paper positive and can cause problems during exposure.

If you want a larger than A4 paper positive we recommend:

Copiworld  
19 Regent St  
Redfern NSW 2016  
Ph: (02) 9310 2877.

We suggest that you stay away from the larger chain stores they will not change the printer properties to get the darkest print

Mesh Color:

- ☞ Yellow Mesh keeps better detail in the image but takes longer to expose, about double the time of White mesh
- ☞ White mesh loses some fine detail but has a shorter exposure time

Hand Stretching Wooden Frames:

If you are interested we have a Instruction brochure on how to hand stretch mesh on wooden frames.  
Please just ask for it.

Thank you for coming along and we hope that you walk away feeling confident and inspired. If you have any questions or need some further information please do not hesitate to contact us.

*Kindest Regards,  
Amon, Shivaun & Peter*

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