

SCREENPRINTING THICK GUTTAS

Screenprinting is the best way of applying gutta because it:

- Is extremely quick to reproduce complex or simple designs alike.
- Pushes the gutta into and through the fabric, controlled by the number of squeegee strokes, rather than just relying on fabric absorption for gutta penetration like conventional hand pipette application does.
- Gives an allover even deposit and coating of gutta. No blobs, mounds or dropouts.
- Increases gutta designwork possibilities. With screenprinting, designs well beyond those possible by hand pipette, can be reproduced again and again flawlessly.

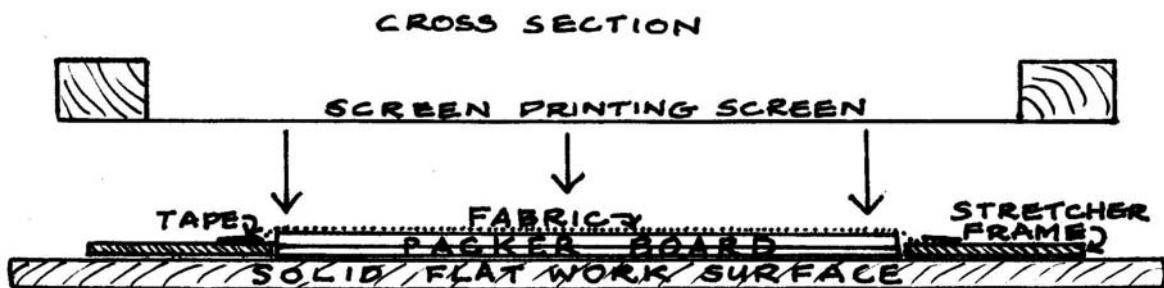
PRELIMINARY GUTTA PENETRATION TESTING

The most important preliminary requirement in gutta screenprinting is to get the gutta to penetrate right through to the backside of the print fabric. The minimum number of squeegee strokes to achieve reliable penetration through the print fabric must be determined, by testing, before starting the print run. Generally I do this by isolating the most doubtful part of the image. Remove a 15cm square hole from a sheet of newspaper and place this over the back of the screen so that only this doubtful part of the image can be printed through the hole. Put a piece of print fabric under this 15cm hole and print with 2 squeegee strokes. Then do another sample with 4 strokes. Then with 6 until you're satisfied that you've discovered the minimum number of squeegee strokes required to ensure reliable penetration for all the print run.

FURTHER REQUIREMENTS FOR SCREENPRINTING

- A **screen mesh** of about 6IT is suitable for all Procolour guttas. Finer mesh sizes clog when utilised for the metallic guttas because of the size of the metallic particles.
- The **squeegee** blade should be of average stiffness and have a round leading edge to maximise the gutta deposit.
- A very flat **work surface** with some provision for **securing the screens** so that they don't move during printing. Generally screens are held in place by hinges which allow the screen to be raised and lowered. A quick release 'G' clamp is good to hold the screen down during printing (on the end opposite the hinges). NB. It's important that the screen sits down flat in all-over contact with the print fabric beneath. If there are any discrepancies in this all-over contact, then this will cause deterioration in print sharpness. Such problems usually arise from undulations in the surface under the print fabric, or a warped screen frame.
- Make sure that the **art work** for the gutta image has continuous outlines of at least 1mm thick which fully enclose areas of the design intended for specific separate colours. Check that there are no unwanted lines or spots contaminating the image. Once the art work is correct the positive can be made and then the image can be put onto the screen.
- Screenprinting books will fill you in on general screenprinting procedures so I'll assume that basic screenprinting knowledge is understood.

- You'll need a square mouthed plastic *shovel for saving leftover gutta* from the screen on completion of printing. I use a children's plastic sand spade cut down so that gutta can easily be off-loaded into the storage punnet. A kitchen rubber scraper is another option for this utensil.
NB: Utensils harder than plastic may damage the screen.
- The fabric being printed needs to be adhered to the back cloth or print table surface during printing so that the squeegee cannot induce any movement. Screenprinting supply specialists will have their recommended waterbased *table adhesives* for this job or for a quick fix answer to this requirement 'Scotch Super 77' repositional aerosol adhesive can be sprayed over the base cloth to make it tacky and thus stop the print fabric from movement during printing. Take care that this spray-on adhesive is not transferred to the print cloth because it can only be removed by solvent and will quickly contaminate the sole of the iron when heatsetting the gutta. **NB.** If the print fabric is not restrained from movement during squeegee passes this will obviously spoil the print sharpness.
- It is more efficient to screenprint the fabric while it is stretched and taped on the frame as advocated in INFO SHEET 4. For this to function properly the fabric must be packed up proud of the stretcher frame so that the screen is firmly in contact with the fabric during printing, especially on the image area. I do this packing with a sheet of 7 mm thick high density foam rubber stuck to a 4 mm thick piece of perspex. This 11 mm *packer board* is made to fit snugly up inside the middle of the stretcher frames which are 7mm thick in profile. The system looks like this in cross section:



- So my back cloth is actually foam rubber and when this gets contaminated with gutta print paste residue it is fully washable being rubber and perspex.

- Because of the snug fit the packer boards have up inside the stretcher frames they locate the image in the same place, on the stretched fabric for each successive print providing the packer board or screen doesn't move between prints. The screen is fixed by its hinge and the packer board is fixed to the work surface with double sided tape. So with this system print runs can be undertaken quickly and efficiently. One stretcher frame will be required for each print and packer boards may have to be changed every 5 prints. This system is suitable for block designs, not for continuous fabric lengths.

- The conventional alternative for fabric lengths is to have a long print table and work from one end to the other making successive prints. This conventional system is very space

demanding but it is the most flexible, in that continuous fabric lengths can be printed as well as separate block prints.

- Prior to printing it is good practice to **check the screen condition** against the light. Pin holes or scratches can be blocked with quick drying specialist preparations available from your screen supplies outlet. Also check the screen image mesh is fully open devoid of any old gutta residue obstructing the passage of gutta through onto the fabric. Textile paint based guttas can be the worst mesh blockage offenders. Screen mesh blockage cleaners for textile paints are also appropriate for these guttas and are again available from your screenprinting supplies outlet. They'll clean the mesh without spoiling the stencil. Normal screen clean ups after use with all guttas are done with water plus DYESOLVE. Mesh blockage problems can be avoided by ensuring that wet gutta covered screens never get a chance to dry out. Cover them with cling wrap if they must be left uncleaned or add textile paint 'retarder' to textile paint based guttas to delay drying.
- After the gutta has been printed **it is important to dry the print as soon as possible**. With the block print system mentioned first above, the stretcher framed printed fabric is removed from the packer board and put onto the blowheater table. By the time the next print is made the previous print is dry enough to be replaced on the blowheater table by its successor and so on for the run.

- For the conventional long print table system mentioned previously, blowheaters can be aimed down onto the print table from above, positioned one heater above every 1.5 metres of table. An overhead blowheater would only be turned on after the print below had been completed because it is important to keep hot air away from the screen so that the gutta on the screen does not dry and clog it.

RAPID DRIED GUTTA = SHARP PRINT DETAIL = GOOD GUTTA PERFORMANCE

- Prior to heatsetting **the print**, it is good practice to **check** the lines for gutta continuity. This can be most clearly visible from the back side of the print. If there are any discrepancies in the lines patch them with a hand pipette gutta dispenser loaded with a matching gutta.
- **The emulsion** used for applying the stencil image to the screens should be durable to water based printing inks and also methylated spirits.

AFTER PRINTING PROCEED IN ACCORDANCE WITH NORMAL PROCOLOUR GUTTA USAGE PROCEDURE