

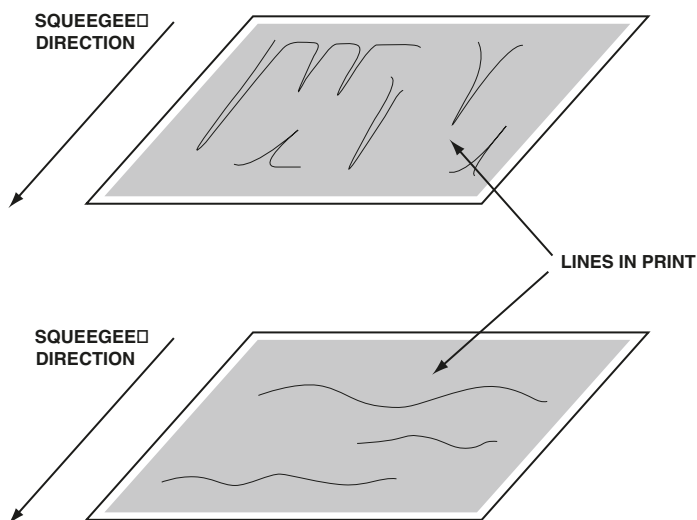
The removal of ink trails or 'dribble' lines from prints.

Background

With the advent of high definition screen printing inks such as Water-based UV systems there has been a move towards finer meshes to increase coverage and improve print quality. This has led to the increased likelihood that, under certain conditions, a printer may experience problems with the appearance of ink trails or dribble lines in the printed ink film. These may show themselves in two ways:

1. Dark lines running through the print in the direction of the flood/print stroke.
2. Dark wavy lines running across the print horizontal to the flood/print stroke.

Diagram



These lines correspond to areas where ink has dropped from the flood coater or the squeegee during the print or flood strokes leaving a thicker layer of ink on certain parts of the screen. The thicker layer then prints as a dark line or streak.

If we examine the behaviour of screen inks during the flood/print stroke it is clear that many types of ink drop or 'dribble' from the coater and squeegee onto the mesh during this cycle. Fortunately most Solvent-based inks do not show up these ink trails since the printed ink film is thicker due to the coarser mesh counts used to print them. The higher film thickness effectively disguises these marks.

With the combination of thin high definition ink and mesh the ink flows less freely through the screen resulting in a slightly lighter print than might be expected. In the areas where the ink has dribbled onto the screen from the squeegee or flood coater a thicker layer prints a little darker showing itself as a dribble line or trail.

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Hints & Tips

Advice from FUJIFILM Sericol Technical Services

This problem is primarily one of ink starvation or general poor flow through the mesh. This results in the ink printing lighter on the bulk of the print and closer to its correct colour density in areas where ink has fallen from the flood coater or squeegee onto the mesh.

Possible Solutions

1. Thin the ink more - this will not stop the ink dropping from the coater/squeegee but will facilitate greater ink flow through the mesh, thus hiding these trails.
2. Slow the machine down - slowing the print and flood strokes often eliminates the problem.
3. Change the squeegee conditions by:
 - (a) Using a little more pressure.
 - (b) Using a lower, less upright angle
 - (c) Using a softer rubber.All of the above will increase ink flow through the mesh.
4. Reduce the gap between the squeegee and the flood coater and make sure that the gap is full of ink at all times.
5. Varying the flood thickness (both thicker and thinner) may sometimes help to eliminate ink trails depending on the type of ink being used.
6. Probably the best solution is to use a higher deposit mesh, preferably one with a greater percentage open area, to allow the ink to pass more easily through the mesh onto the substrate.
eg. moving from a 150.34PW to a 150.31PW or a 140.34PW may help.

The above recommendations should help in reducing the appearance of dribble marks or ink trails, either when used singly or in combination with one another. If you are still unable to obtain a satisfactory print after trying these suggestions please contact Technical Services on the telephone number given below

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More than ink...Solutions.

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