

# THE PRINTER'S LAMENT

By Mick Orr  
Applications Training Specialist

Joe walked into The Printer's Lament soda shop looking for his screen makers. At a table in the back of the room, he spotted them. Matt and Jeff were just sitting there watching their root beers defizz. They were both muttering the same question but getting no answers. "Can't understand it! Nothing is turning out right! We make better prints with a potato than with the screens we make. We're using the best film and the best equipment in the tightest controlled screen making area. What's going on?"

At that point, Joe joined them. "Calm down, fellas, and order me a root beer. Let's play detective and see why you're having so much trouble."

**Joe:** First. What are the symptoms?

**Matt:** The printers are getting sawtooth, weak stencils, pinholes, thin stencils, and thin ink deposit.

**Joe:** That's it?

**Jeff:** Uh-huh.

**Joe:** Hmmm... What do these symptoms have in common?

**Matt:** Don't know, Joe. Let's call Chromaline in to help us.

**Joe:** No, let's try to solve it on our own first.

**Matt:** Wait, maybe it's the stencil. It's too thin.

**Joe:** Let's try going through a checklist of your procedures. Stencil tension?

**Matt:** Correct.

**Joe:** Properly degreased and stored?

**Jeff:** Yup.

**Joe:** Properly coated?

**Matt:** I follow the coating directions for both my Magna/Cure® UDC direct emulsions and my Magna/Cure® capillary films.

**Joe:** Properly exposed?

**Jeff:** You bet. I never change my exposure time so it can't be that. Can it?

**Joe:** You're new at this aren't you, boys? Here's an article I'd like both of you to read: "The Effects of an Underexposed Screen":

A screen that has been made properly and coated correctly can be destroyed by not controlling the exposure step. In order to have consistent screens, every thickness and every mesh, as well as the distance, must be constant. Any change will yield a different exposure.

For example: A screen coated wet on wet with three passes will have a different exposure speed than a screen coated wet on wet with four passes. Because the stencil hardens from the print side first, it is important to always touch the squeegee side of the screen. If the screen coated four times feels slimy on the squeegee side during developing and the one coated three times doesn't, it is an indication that the one that was slimy is underexposed. The slime you feel is actually unexposed emulsion.



*Looking for insight on the wonderful world of screen making? Consult the writings of Chromaline's Technical Guru, Mick Orr, Applications Training Specialist.*

*Mick has been in the screen printing industry since 1970 with printing experience in a wide range of applications from membrane switches, to textiles, specialty graphics to faceplates and more. His hands-on seminars have been appreciated by screen makers around the world.*



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If the screen is underexposed, it should be reclaimed. Continued developing of the already underexposed screen will actually wash away much of the stencil. All that hard work coating the screen is actually washed down the drain. What started out as a good coating of emulsion is now too thin. If the emulsion is too thin for the mesh count, many negative features will be exhibited including: sawtoothing, severe pinholing before or during printing, scumming and light ink deposit.

It is good practice to keep a log on mesh counts and stencil materials and adjust the exposure accordingly. It's relatively easy to determine the correct exposure by using an exposure calculator such as the Chromaline Exposure Calculator. If you have one, use it. If you don't, get one.

A couple days later, the boys are back at The Printer's Lament staring at their root beers.

**Joe:** What's wrong now? Still having exposure problems?

**Matt:** No, all my screens look great. That Chromaline exposure calculator saved the day. No more underexposed screens.

**Joe:** So, why are you guys back here?

**Matt:** We don't know what to do with the hundred pounds of spuds we bought for printing.