

THE SCREEN MAKER'S LAMENT

By Mick Orr
Applications Training Specialist

Every screen maker in the world knows about pinholes. In many shops they are a way of life. One comment I repeatedly hear is that no matter how careful the screen maker is, he still gets pinholes. How come?

In the past, I've talked about screen preparation and how important it is to have the best screen possible to coat. Abrading, degreasing, and drying are still just as important as ever and should not be overlooked. If any of these steps are ignored, you are just asking for trouble in the form of stencil breakdown, that is, pinholes.

Yet, even the best prepared screen prepared by the best screen maker in the world, can break down on the press if it is mishandled by the printer. That's what I want to focus on today, because sometimes the problem is how the screen was run on the press, not how the screen was made.

Watch the "Old Pro"

Have you ever noticed how a new screen printer usually goes through twice as many screens as an experienced, skilled printer? Well, I have.

When I was foreman at a large shop, I quickly learned to give the tough jobs to my seasoned printers. The short runs went to the new printers. I could always count on the new printer showing me a print full of specks caused by pinholes. What on earth caused them? They weren't there when the screen was set up in the press. They just magically appeared. The "old pro" printer just kept on printing without a problem. Both used the same mesh, the same ink, the same press, even the same emulsion system. Yet this new guy was having all the pinholes.

Watching these printers side by side for a few days revealed the big difference between the two. That difference was in the way they handled keeping the press running. The new guy was constantly stopping his press and cleaning his screen for every "bug" he saw. Not only did he soak the stencil with screen wash, he would also wipe the stencil dry with yet another rag.

The "old pro" only stopped his press for either reloading or for breaks. If he saw a problem, he would correct it on the fly. His rags were damp but not saturated with screen wash. When a bug would appear, he would merely touch the stencil wherever the bug appeared. Then he would run a couple waste sheets through the press and start printing again.

So what did that tell me? It told me that maybe one reason the new guy was getting more pinholes was because of the way he used the screen wash. When I made the new guy use less screen wash, and apply it to the screen as the seasoned printer did, the pinhole problem was suddenly solved; however, I didn't know why the solvent was giving me a problem.

Ten Years After

Well, I now know why the solvent was giving me so many headaches. All reclaimable stencils are not only hygroscopic (absorb water vapor), but they also absorb alcohol, glycol, acetone, and ketones. When these solvents are absorbed, the stencil will swell, get sticky, and lose adhesion to the mesh or simply dissolve. Lo and behold: pinholes!



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.



Chromaline Screen Print Products

4832 Grand Ave. • Duluth, Minnesota 55807 • Tel: 218.628.2217 • Fax: 218.628.3245
Web Site: www.chromaline.com • E-mail: sales@chromaline.com

Most inks and screen washes have some level of these solvents present. While it is impossible to avoid using ink, it is possible to avoid using screen washes that have these solvents. I'm not saying to stop using screen wash. Just don't use so much of the stuff at the press. Every time that new guy stopped to clean his screen he was subjecting it to these extra harsh solvents.

One last thing. After using a screen wash, make it a habit to let the screen aerate for a few minutes before starting up again. This will give the stencil time to evaporate some solvents and re-harden.