



Five Important Factors for Imaging a Screen

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As a screen printer, your business' success relies on properly prepared and imaged screens. If screens are not made or imaged well, the result can be inferior designs, additional staff downtime or both. Once you have properly prepped your screens (click [here](#) to read "Five Important Steps for Prepping a Screen"), it is imperative that you know the most crucial steps in screen imaging. Following are five things to keep in mind to effectively image a screen for maximum printing results.

1. Cleanliness: Many screen printers underestimate the importance of their shops' cleanliness. Not only should screens be properly prepared, but their prepping and storing environment also should be clean. Lint, oils, dust, ink residue, etc. all have a negative impact on the printing process or how crisp and clear your print image will be. For consistently good print results, be sure that your exposure glass, film, floors, walls etc. are kept clean.

Dust and lint on the exposure glass will cause your image transfer to have flaws, leading to imperfections in your design or pinholes that will take time to fix. Excess lint also can deposit on your screens and open ink containers, causing clogs in the screen and ink contamination. I know some shops that clean several times a day. Cleanliness is crucial for smooth production runs and, ultimately, the bottom line.

2. Emulsion Selection: Be sure to choose the right emulsion, not only in regards to the type of emulsion, (Diazo, pure photo polymer or dual cure), but also for the type of light source (single-point, multi-point, etc.) and type of lamp/bulb to be used (halogen, fluorescent, metal-halide, etc.). In addition, the detail of the design and ink type to be used (water-based, plastisol, discharge, etc.) also must be factored in with your emulsion choice.

Be careful in choosing your emulsion. The saying, "You get what you pay for," rings true where emulsion is concerned. Personally, I prefer the dual cure variety, since it exposes in a reasonable amount of time, is quite forgiving, is good for water-based and plastisol inks, and is fairly priced.

3. Coating Techniques: Learn to coat a screen correctly, then be consistent with your coating technique. Be sure to follow the manufacturer's recommended coating technique. I prefer two coats on the substrate side, one coat in each direction and two coats on the squeegee side (also with one coat in each direction).

This technique should give you the proper emulsion-over-mesh (EOM) ratio. If — after exposing and drying — you don't feel the stencil when you run your finger over the screen on the substrate (T-shirt) side of the screen (there should be a difference in texture between the mesh and the emulsion where your design is), then a sufficient amount of emulsion has not been applied. Simply add more coats (two to three) wet-on-wet, or add another (face) coat on the substrate side.

***Remember, finer mesh counts can require more coats than coarser mesh counts.**

4. Drying: A screen that has been coated with emulsion must be dried in a horizontal position with the substrate side facing downward. Ideally, the room should be dark or any light must be filtered with a red or amber filter to prevent the screens from being prematurely exposed. Add a de-humidifier to the room to remove moisture from the air. Many times, I come across drying rooms that contain fans that are used in an attempt to rid the room of moisture.

Beware: Unless the room is immaculate, the frantic air movements caused by the fans will stir up dirt and lint, causing those particles to collect and deposit on the newly coated and wet screens. As an alternative, I highly recommend purchasing a screen drying chamber to speed up the drying process, if necessary.

5. Exposing: The process of exposing emulsion is the source of many discussions I've had when conducting seminars. There are many factors in play, such as the type of film used. Are you using vellum/laser print, inkjet or orthochromatic?

Because vellum, by nature, is rather cloudy in transparency, the laser printer used to transfer the design onto it produces a dark grey print rather than one that is solid black. Therefore, it usually is necessary to under-expose the screen to reproduce any detail. Subsequently, an under-exposed screen will have more pinholes that need to be touched up manually, not to mention that the screen may prematurely break down if used for extended print runs.

Try upgrading to a waterproof inkjet print film, which is a clear polyester film. It provides higher contrast for finely detailed images and is durable enough to be stored for future use. If your design contains halftones or a lot of detail, then use orthochromatic (ortho) film, as it is the clearest and will yield the best results. Just remember, when it comes to exposing, the design printed on the film should be as opaque as possible (black), while the film should be as transparent (clear) as possible.

This is just a short list of items to consider, and is by no means exhaustive. Again, if you have questions about any of the emulsion, exposure units or film products you are using, turn to the manufacturer for answers. Use them as a resource to get help in understanding your options.

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