

*This Aquatint Screen simulates the random dot of a fine aquatint. If you intend on working with drawings and photopolymer printmaking films like ImagOn, then you need an Aquatint Screen to provide a dot pattern. First the polymer plate is exposed to the Aquatint Screen to provide an overall rich black 'aquatint-like' base, in preparation for a second exposure to a drawing or photographic positive.*

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The artist creates an image that will act as a stencil and controls what parts of the photopolymer plate are exposed to ultraviolet light and get hardened, and what parts do not receive any light and remain water soluble. The stencil can be many things: a photocopy onto a transparency, a drawing or painting onto textured Mylar, or an inkjet print made onto an inkjet transparency. In each of these examples a common attribute is that the image is a *positive* and that the material that holds the image is *transparent* or, at least, *translucent*. This allows the ultraviolet light to pass through the transparent surface and light-harden the photosensitive surface of the plate, turning the film into a water-resistant polymer. Where a mark is drawn or where the photographic transparency is dark, the light does not pass through. Where the light does not pass through, the photosensitive surface is not light hardened and turned into a polymer. When the plate is next developed in a waterbased developer, these non-polymerized areas will wash away leaving empty grooves and crevices behind that correspond to the dark areas of the image. It is these small grooves and crevices in the photopolymer film that will fill with ink and print as an intaglio print when using a non-etched technique. It is also these grooves and crevices that will etch in the ferric chloride when utilizing an etched technique.

*When drawing or painting a transparent stencil:* The drawing/painting must be on a translucent material, like a single sided frosted Mylar. If this were exposed to a photopolymer plate, the plate would not hold much ink because there wouldn't be a texture. The solution to this problem is a two-step exposure process. The photopolymer plate is first exposure to an *Aquatint Screen*, which photographically transfers an overall even dot pattern to the plate. The screen is removed from the plate, and a second exposure is made to the continuous tone drawing/painting on frosted Mylar.

In this way the drawing/painting is supported by a fine random dot pattern, this dot pattern comes from the Aquatint Screen. The dots are small and not noticeable on the final print, but are essential for their role of providing the intaglio texture. A two-step exposure process is necessary for all continuous tone images like drawings and paintings on Mylar.

**Materials:** Select a Mylar, polyester sheet or drawing vellum that is plastic, not paper based. Tracing papers and things like it will wrinkle when wet media is applied. Select a Mylar that is frosted or textured on one side so that wet media can be applied and will not 'pool', but will stay put where painted. Double-sided frosted Mylar (like Duralar) works but is not as sensitive to exposure times as single sided frosted Mylar. Some totally clear Mylars are available that have been treated so that wet media will not pool on them, although they are not textured. Sometimes called 'prepared acetate', these may or may not be suitable for pencil and crayon work.

Drawing materials and the approach towards using them is infinitely varied. Experiment and see what works technically (blocks the light) and aesthetically for you. Some materials may have to be sprayed with fixative to set the materials prior to using as a stencil, and mixing materials on the same stencil may require some compromise during exposure time (for instance, between delicate pencil marks and dense oil pastel marks). Practice working with a variety of materials to see how they translate into the finished print, noticing that some of the lightest areas (0-10% grays) can burn out and not print, and the darkest shadow details (85-95% grays) might not show detail and print as a solid black instead. Learn to adjust the drawing accordingly. Consider the drawing a stencil rather than a finished piece of artwork, and experiment with darkening the lightest marks somewhat so that they print on the etching in the subtle way you initially drew them.

### **USE OF AQUATINT SCREEN**

This screen is primarily used for direct contact exposures to a photopolymer film such as ImagOn. An initial exposure to this Aquatint Screen will create an overall rich black 'aquatint-like' base, in preparation for a second exposure to a drawing or photograph on a transparency. Each Aquatint Screen has an opaque dot structure. During exposure absolute contact between the screen and the plate is essential, use a vacuum frame and a strong ultraviolet light source for optimum results. Acceptable results can also be obtained by using a contact printing frame and direct sunlight, however maintaining consistency while using sunlight as a light source is problematic. Make sure your light source offers even illumination over the entire surface of your vacuum bed. Each light source will require tests to determine the proper exposure time. Once these tests have been successfully completed, then the Aquatint Screen exposure will remain a fixed, constant time in all future work with that same light source, provided that the light source remains constant. To conduct the test using a vacuum frame:

1. Laminate your printing plate with photopolymer film.
2. Place a clean Aquatint Screen emulsion side (dull side) down on top of the coated plate. The screen must be a 1/2" wider than the plate on all four sides to provide a good seal.
3. Close the glass frame and turn on the vacuum. Make a series of test exposures. Use an opaque material (a piece of mat board, Rubylith, etc.) to progressively block-out the plate from the light source. Maintain the vacuum throughout the test by moving the opaque material across the top surface of the glass. Begin with 10 second increments, working up to 60 seconds. This should get you in the ballpark of an exposure time.
4. Turn off the vacuum, remove the screen and store it in a safe location.
5. Develop your photopolmer plate, being careful not to aggressively wipe out any dot pattern. Rinse, dry and proof the plate.
6. Depending on the results of your first proof, repeat the test, refining the exposure as needed until you are producing a consistent, rich black.
7. After this initial test exposure to the screen is determined, follow with a second exposure to a positive image on a transparency made from by drawing, painting, photocopy, or digital photograph.

### **CARE OF AQUATINT SCREEN**

If the screen needs cleaning, use cotton balls dampened with negative film cleaner or Isopropyl Alcohol. Be extremely gentle when cleaning the emulsion side. Store the screen flat, either in a large sturdy envelope with nothing lying on top or hole-punch one end and hang on the wall. Handle the screen by the edges only, try not to bend or crimp during exposures. Make sure the sharp edges of your printing plate do not scratch the delicate emulsion side of the screen. Wipe dust off gently with a lint-free cloth or photo chamois. Dust and dirt particles trapped under the screen while in the vacuum frame can impress into the photopolymer emulsion and possibly damage and scratch the dot structure. Always work with the top protective layer of Mylar on the printing plate.