



Z*ACRYL PHOTOPOLYMER FILM - DIRECTIONS

OPEN LIGHT-PROOF INNER SLEEVE IN SAFE LIGHT ONLY!

Dry photopolymer films are photo sensitive resists developed for the printed circuit industry and first adapted for fine art photo-mechanical printmaking by Mark Zaffron, 1993-94.

Z*Acryl intaglio film works with positive transparencies exposed by a high ultra-violet light source (e.g., metal halide, mercury vapor, xenon pulse, carbon arc, and/or photo flood). Additional studio equipment includes: Etching press, safe light set-up, photo tray, razor blade, newsprint, and sodium carbonate (developer).

PREPARING THE ARTWORK

There are only two requirements of the generative image: the positive image area must be opaque and the non-image area must be translucent. Tonality is achieved, as it is with any intaglio technique, by a line or dot pattern. Transparencies are created most commonly by (but not limited to) the following approaches: Linotronic image setters; Kodolith film halftone transparencies; laser copies of black and white photographs; hand-drawn imagery on frosted Mylar; and computer generated (digital) imagery output on a wide variety of printing devices.

PREPARING THE ETCHING PLATE

Since the plate is to be run through the etching press upside-down during the lamination process, its edges must be beveled on *both sides*. Sanding the face of the plate is an OPTIONAL process that can increase the adhesion of the film. First, sand the surface with 320-grit sand paper. (Electric palm sanders do a fast, effective job and cost less than \$30). Wipe away all residue. Then degrease the plate and allow the plate to dry.

FROM THIS POINT FORWARD THE PROCESS SHOULD BE CARRIED OUT UNDER SAFE LIGHT CONDITIONS

A safe light can be made by using a 50 watt yellow "bug light" bulb in a clamp-style fixture. Working at night will eliminate the major source of UV light, and blankets and/or black plastic can be used to block out all other ambient UV sources. It is not necessary to have safe lighting around the etching press as very low levels of indirect sunlight and/or indoor lighting will not effect the film, however this exposure should be minimized as much as possible.

LAMINATING THE PHOTOPOLYMER FILM

Have the following materials at hand: film, etching plate, sharp razor blade, and newsprint. Complete adhesion of the photo emulsion to the plate is essential. The film consists of the photo-sensitive emulsion sandwiched between two layers of plastic. The plastic causes the film to roll up. When the inward layer of plastic is removed the film flattens out and the bared emulsion can be laminated to the plate. Handle the film carefully as wrinkles or creases will interfere with the integrity of the exposed image. Cut a piece of film from the roll. (The film should be larger than the plate if you wish to expose the entire plate. Small pieces, selectively placed on the plate can also be used). To remove the inside layer of plastic, stretch one corner of the film (as if to tear it) and scratch the plastic with your thumbnail until the inside layer separates. Peel away this layer and discard it.

(Instructions continued on back)



Z*ACRYL HARDGROUND & STOP OUT EMULSION--DIRECTIONS

Thank you for purchasing Z*ACRYL water-soluble and non toxic emulsions. We are confident you will find them to be the simplest, most versatile, and safest resists yet available. For the best results, please read the following directions carefully. If you have any questions or comments, please call H-B PRODUCTS, INC. toll-free.

HARDGROUND AND AQUATINT ETCHING

PREPARING THE ETCHING PLATE

Z*ACRYL HGE will work with all commonly used etchants and metals--however, it was designed to encourage the use of copper plates and the safest etchant, ferric chloride. Copper plates are available in many thicknesses. Economy grade (22-gauge to 18-gauge plates) can cost 50% less than the finest "engraver's copper. If you choose to use economy copper, the back side must be protected from the etchant. A simple method is to cover the back side with plastic packing tape. (The economy copper available from H-B PRODUCTS comes with an etchant-resistant [removable] PVC film laminated to both sides.)

The FRONT of the plate must also be prepared. Run some water over the surface of the plate. When you tilt the plate slightly you will see the water bead up and roll randomly, instead of "sheeting" down its face. Using a household cleanser and scratch-resistant sponge, thoroughly degrease the surface of the plate--paying particular attention to the four corners and edges. Rinse the plate completely and repeat the process until you observe the ideal sheeting action.

APPLYING THE HARDGROUND EMULSION

Z*ACRYL HGE comes in a plastic squeeze bottle with a dispensing cap. HGE becomes a hardground resist when it dries in a thin even film over the entire surface of the plate. Have some newsprint laid out next to a plastic photo tray. Stand the plate in the tray. With one hand behind the plate, hold it in a nearly vertical position. Begin by directing a stream of HGE at a bottom corner of the plate. Slowly and evenly direct the stream up the side, along the top edge, and down the other side of the plate. **Ideally, this is done in one continuous stream.** The ground should flow smoothly down the face, and off the bottom of the plate. With your hands pressing against both SIDES of the plate (touching the face of the plate at this point will disturb the ground as it continues to run off), lift the plate straight up and allow most of the runoff to drip into the tray. Stand the plate on some newsprint to absorb the excess ground. It is important to prop the plate vertically to dry. As the ground flows from the plate, it will build up along the bottom. Try to minimize this, occasionally reposition the plate on the newsprint, blotting off the excess ground.

Allow the plate to dry completely (30 min. or so) before drawing through the ground. This ground is worked and etched in the same manner as are traditional grounds.

REMOVING THE HARDGROUND EMULSION

Once dried, the HGE will be water-resistant enough to stand up to any etchant solution, and the plates can be rinsed without harm to the ground. Common household ammonia and water (a 50% or stronger mixture) will re-solubilize the ground and completely remove it in seconds. Even safer, the ground can be stripped by soaking in a bath of SODIUM CARBONATE and water (50 grams per liter).

HINTS:

- Initially, dispensing the ground can feel a bit awkward, and drips or bubbles often occur. However, by a second or third attempt you will acquire a "feel" for coating the plate in a single pass, which promotes an ideally thin and uniform ground.

(continued)

- If the dispensing cap is difficult to snap open, it is because the HGE has dried it closed either during shipping or after it was last used. In such cases, thoroughly clean the cap with warm water and ammonia and allow it to dry. This should be done after each use.
- Avoid shaking the bottle. Air bubbles in the bottle can be imparted to the plate.
- When dispensing the HGE, turn the bottle upside-down and squeeze firmly. It is easier to allow gravity to help pour the emulsion rather than trying to squirt it on to the plate.
- Z*Acryl HGE works best when it is applied as thinly as possible. If it forms too thick a film, it may flake very slightly as it is drawn through with the etching needle. Holding the plate vertically during application, and propping the plate vertically as it dries, allows more emulsion to run off the bottom, and creates the ideally thin ground.
- The ground that runs off the plate and into the photo tray can be returned to the bottle and re-used. Always use a clean, dry photo tray and plastic funnel to avoid “polluting” the bottle when the unused ground is poured back.

AQUATINT

Z*ACRYL HGE is the first ground that can be sprayed onto an etching plate through an airbrush to create aquatints. Simply pour the HGE into the reservoir bottle of the airbrush. A second reservoir bottle should be filled with ammonia (for cleaning the brush). Adjust the airbrush so that it sprays a widely dispersed, fine mist. Hang the etching plate vertically against a backing sheet of white paper. The fineness or coarseness of the aquatint “dot” can be manipulated by the distance of the spray. Begin by spraying the aquatint well above the plate, and observe the pattern the spray makes on the white paper. When you are satisfied with the spray pattern, continue spraying, side to side, across the entire surface of the plate. Each stroke should extend well past the sides of the plate. Because the aquatint mist is so fine, it is difficult to see the ground on the plate. However, the character of the aquatint will be quite visible on the white backing sheet. When completed, lay the plate down on a flat surface to dry. When dry (approx. 15 min.), etch the plate in the usual manner.

CLEANING THE AIRBRUSH

The airbrush needle must be thoroughly cleaned each session it is used. Fortunately, the whole process takes less than 30 seconds. Disconnect the HGE from the airbrush. Remove the top from the ammonia-filled reservoir bottle. Submerge the tip of the airbrush in the ammonia for a few seconds. Lift the brush from the ammonia and spray toward into a piece of paper towel or rag, until the airbrush is empty. Attach the ammonia-filled bottle to the airbrush and spray ammonia through the brush until only the clear ammonia is discharged (i.e. no dye from the HGE is visible). Disconnect the ammonia and again spray until the airbrush is empty. Because the Hardground Emulsion dries so quickly, if the airbrush is sitting for half an hour or more between uses it should be cleaned.

Z*ACRYL STOP OUT RESIST

Z*ACRYL SOR comes pre-mixed in 8-ounce bottles. Like other stop out grounds it is an etchant resist that is viscous enough to be applied to selected areas of the etching plate without spreading. Pour a small amount of SOR into a separate container. Using a soft brush, paint the STOP OUT onto the plate as smoothly as possible. To cover a large area, a foam brush is desirable. Avoid forming bubbles and brush strokes in the ground, as these might become a source of foul biting. When the ground dries, run your hand or a rag over it to see if any ground comes off. Hold the plate horizontally at eye level. If you observe a solid film-layer of ground the STOP OUT RESIST will work perfectly. Touch up any breaks, air bubbles or brush strokes with more SOR if necessary.

For best results when stage biting an aquatint, the Stop Out should be carefully inspected and touched-up, if necessary, between each stage.



Z*ACRYL STOP OUT RESIST--DIRECTIONS

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Z*ACRYL SOR comes pre-mixed. Like other stop out grounds it is an etchant resist that is thick enough to be applied to selected areas of the etching plate without running or spreading.

For best results the Stop Out Resist should be applied to a clean, degreased plate.

Pour a small amount of SOR into a separate container. Use a soft rounded brush to paint the Stop Out onto the plate as smoothly as possible. To cover a large area, a foam brush is desirable. Avoid forming bubbles and brush strokes in the ground, as these might become a source of fowl biting. When the ground dries, run your hand or a rag over it to see if any ground comes off. Hold the plate horizontally at eye level. If you observe a solid film-layer of ground, the Stop Out Resist will work perfectly. Touch up any breaks, air bubbles or brush strokes with more SOR if necessary.

STAGE BITING AN AQUATINT

A problem commonly occurs--particularly with copper plates--when applying the Stop Out over a previously aquatinted and etched area of the plate. After a copper plate has been bitten, the etchant rinsed away, and the plate dried, a rust-like oxidation occurs on the surface of the plate. If the oxidation is not removed prior to painting on the Stop Out, the Stop Out will dry to a powder and flake off the plate. To avoid this, again, care must be taken that the surface of the plate is thoroughly clean.

An excellent de-oxidizing rinse can be made from a solution of 50% water, 50% white wine vinegar and a few table spoons of salt. After the plate has been bitten and the etchant rinsed away, flood the surface with the acetic acid and salt rinse, it will de-oxidize the copper on contact. Then blot the plate dry with smooth newsprint. It is best to dry the plate completely as soon as possible (a hair dryer can help).

For best results when stage biting an aquatint, the Stop Out should be carefully inspected and touched-up, if necessary, between each stage.

REMOVING THE STOP OUT RESIST

Once dry, the SOR is stripped in a solution of 50% household ammonia and 50% water. It can also be stripped in a bath of 10% (5 ounces/quart of water) sodium carbonate. If the SOR is left on the plate for extended periods of time, it will adhere to the plate more stubbornly and it will be necessary to use ammonia as the sodium carbonate bath might not be strong enough to dissolve it.

The Stop Out can be mixed with a small amount of Z*ACRYL HARDGROUND EMULSION to thin the ground slightly, making it easier to clean from the plate.

H-B Products Incorporated, Graphic Arts Division
P. O. Box 464 Deerfield, IL 60015 Telephone & Fax: 1 800.651.7975