Photo- intaglio Technical Notes

Preparation and Materials
- Digital positive transparency that is 24 hours old (making two transparencies of the same image permits you to use one for making test plates, and a second to make the final plate based on the test results)
- Utility knife with new sharp blades
- Roll of masking tape
- Printing paper, torn to size

Plate preparation
1. Bevel edges
2. Sand plate with a 400+ grit sandpaper (keep the plate and sandpaper damp to keep the copper dust from going airborne, but DO NOT RINSE THE COPPER DUST DOWN THE SINK DRAINS!!! It contaminates the water)
3. You can back the plate with contact paper to protect it for future use, but this is not necessary (we won’t be using acid)
4. Degrease the plate surface using the same degreasers used for aquatints; immediately blot the paper dry DON’T TOUCH the plate surface with your fingers!

If you plan to process the plate from start to finish in a single session (and this takes about 2 hours when you are just learning), you’ll want to soak some paper while you process the plate.

Prepare the developing bath
You may be able to avoid this step if the developing bath is relatively fresh (a few days old, not exhaustively used)

1. Place ¾ cup of HOT water in the plastic beaker (it’s marked)
2. Wearing gloves and eye protection, (1) pour 1+¼ bottle-capfuls of soda ash into the beaker (2) add the hot water and (3) DISSOLVE IT THOROUGHLY – swirl it a minute or two. NOTE: When soda ash becomes damp or wet, it becomes active and can give you an unpleasant chemical burn. Please replace the lid on the soda ash tightly and don’t get any water in the soda ash.
3. when the soda ash in the beaker is dissolved, add enough room-temperature water to the beaker to bring the water level to the 1-liter mark, mix thoroughly and pour the developer into the left-side bath marked ‘developer”. The developer must be room temperature (67 – 73 degrees F). it lasts up to a week with minimal use and several days with moderate use. Be sure to chart when you make a new batch on the board.

About disposing of developer or stripper: Never pour developer or stripper (especially stripper) down the sink without first consulting with studio aides or Judy. Some of the film fragments are too large and slimy and will clog the sink and they don’t break down…..!
Thanks.

Laminate ImagOn film to plate
You will apply a light-sensitive film to the copper plate. The film is sandwiched between two protective plastic films that will be removed at different points in the process*. The film will be developed so that some of it dissolves and other parts of it will remain intact, allowing you to ink the plate/film as you would a traditional etching. You’ll need to begin the lamination process in the dark room with the safety lights on.

(1) Set an etching press to print copper, and loosen it just an increment or two, then head to the dark room with the degreased plate.
(2) Let your eyes adjust before doing anything
(3) Cut a piece of ImagOn film a bit larger than your plate (+1/4 inch on each side)
(4) The proper side to laminate down to the plate surface is the ‘inside curl’
(5) *Peel the protective plastic film using a bit of tape fixed to the counter
(6) Carefully peel about one-third to one-half of the plastic away from the ImagOn film and place it on the copper plate. Note that the film is not sticky like contact paper.
(7) Using the brayer, roll over the film from the center of the plate, outward – apply some pressure and continue rolling out the film. Avoid creases and folds.
(8) To completely dry-mount the film to the copper, place the plate in the cardboard folder provided in the dark room, cover the plate with yellow blocking paper, and close the folder.
(9) Carefully transport the folder with the plate to a press that has been previously set up for copper – it need not be tight enough to print. Avoid exposing the plate to the light while transferring the plate to the press bed. Roll the plate through the press a few times, you can incrementally tighten the press a notch or so. Cover the plate with the blocking paper and remove the plate to the cardboard folder. Return to the dark room.
(10)Trim the excess film from the edges of the plate carefully with the sharpest blade you can use. The trim job will have an impact on the final print.
(11)Use the heat gun to warm the film to the copper plate – warm don’t melt the film – it should be warm to the touch, not HOT. This will take a minute or two. Hold the heat gun 4 – 6 inches away from the plate.

Prepare to expose the film to light
Assemble: Aquatint screen
Blocking paper
Transparency of your image
Masking or other tape is useful

Light Exposure Rule of Thumb: The longer the exposure, the lighter the values in the printed image; the shorter the exposure, the darker the printed image will be.

(1) You’ll need to create the image in two stages: (a) one exposure will create a random-patterned matrix similar to that of an aquatint. (b) the next exposure will apply your imagery to the ‘aquatint’ pattern exposed on the plate in the appearance of your transparency image – it works like a stencil over the pattern that will dissolve and accept ink.
(2) The aquatint screen should be exposed to 15 – 17 lumens of light in the NuArc lightbox
a. Turn on the Nuarc unit
b. Be sure the glass is clean and handle it carefully
c. Place the copper plate with the ImagOn film facing up on the rubber mat beneath the glass.
d. Place the aquatint screen facing up (note the white label on the upper right corner of the screen will help you orient the screen properly) on top of the copper plate
e. Carefully lower the glass down on the bed
f. Turn on the vacuum – this will stick the aquatint screen down along the edges of the plate.
g. Turn the screw turn clockwise to increase the suction on the vacuum to 20-25 lbs.
h. Using the keypad, enter “15.0” on the machine, close the drapes and AVERT YOUR EYES! Press the ‘on’ button and turn away while the light
i. Turn the screw turn down (counterclockwise) to reduce the suction of the vacuum to 0 and turn off the vacuum. Wait for it to exhale then SLOWLY lift the glass – there could be some sticking.
j. Now remove the aquatint screen and replace it with the transparency of your image – the image should be placed down on the image in the reverse orientation that you want it to print. Said another way, keep emulsion next to emulsion.
k. Lower the glass, turn on the vacuum, turn up the suction, set the Nuarc for the appropriate lumens, close the curtains, turn it on and AVERT YOUR EYES! Reduce the suction, turn off the vacuum and remove the transparency

Develop the film

(1) *PEEL OFF THE SECOND PLASTIC MYLAR FILM BEFORE DEVELOPING THE PLATE – otherwise, nothing will happen!
(2) Gently place the plate in the developer DON’T AGITATE and immediately begin timing the developing phase for 9 minutes – be precise about this; use the timer in the darkroom.
(3) After 9 minutes, remove the plate from the bath, and gently rinse it with clean water, sponging the plate gently to remove the exposed film. Do this until no more film colors the sponge or rinses from the plate. The plate will feel smooth and slimy.

Continue to use the red safety lights until you have neutralized the developer. Be sure not to cross contaminate the sponges! If you use a vinegar soaked sponge to develop the image, it is possible that the developing will be aborted.

(4) Spray vinegar on the plate to neutralize the developer, sponging carefully – the plate will feel toothy and rough. That is the tooth that will hold ink!
(5) Rinse the plate thoroughly with water and blot the plate dry with newsprint or paper towel.
(6) LIGHT HARDEN THE PLATE by exposing the plate to 10 lumens of light – no transparencies, no screens.

Print
This film is fairly durable, though you’ll still want to be careful that you don’t scratch or tear the film while inking and printing. You can use Renaissance Black which requires minimal wiping, but this may not provide the best visual results. Frankfort will provide better results – more contrast and darker blacks.