Cyanotype

Cyanotypes or blue prints are the easiest, least expensive, and one of the most stable contact printing methods. The prints are made from two stock solutions. Solution "A" uses ferric ammonium citrate, and stock solution "B" uses potassium ferricyanide. Most cold press watercolor or heavy printmaking papers work well, such as Arches cold press and Rives BFK. It is important to buy individual sheets of the watercolor paper as the paper blocks generally are buffered. Buffered paper is too alkaline for the process and will result in problems. The chemistry has a tendency to grow mold very easily. It can be strained off and works fine. Exposure times are long. The print oxidizes and becomes a darker blue as it dries. You can force the image to its final color during the processing if you like by soaking it in a 3% hydrogen peroxide solution.

Materials you need:

Safety goggles

Gloves

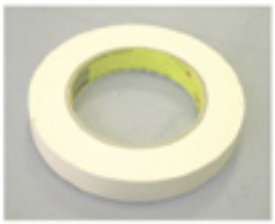
Foam brush

Plastic cup

Negative

Hair dryer

Paper


Masking tape

Chemistry you will need:

Generally the solutions come prepared but they are:

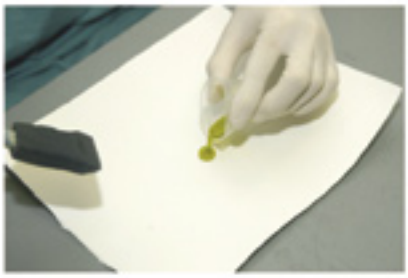
Solution A:
Ferric ammonium citrate 90 grams
Distilled water 124 ml (8 fl. oz.)

Solution B:
Potassium ferricyanide 50 grams
Distilled water 124 ml (8 fl. oz.)

Cyanotype Procedure

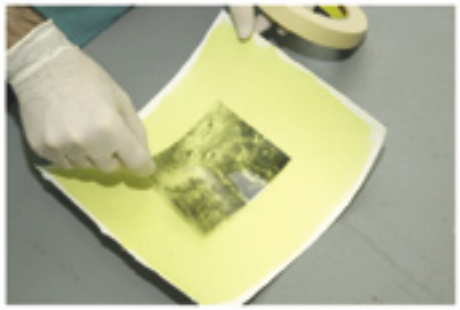
Step 1. Mix Ferric Ammonium Citrate Solution "A" to Potassium Ferricyanide Solution "B" in equal amounts.

Step 2. With a foam brush coat the paper surface with an even coat of chemistry.

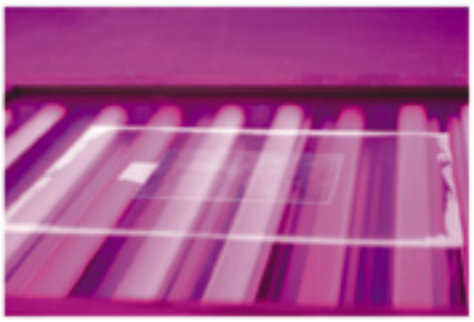


Step 3. Dry the chemistry with a hair dryer. Be sure not to overheat the paper and chemistry, as it will result in problems in the print. Be sure the paper is thoroughly dry from both sides. This step is crucial or the image may wash off during development. So when you think the chemistry is completely dry…dry it again.

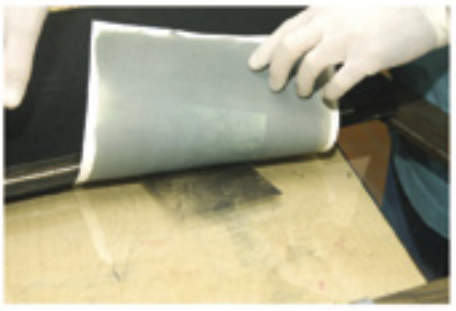
Step 4. Tape your negative onto the sensitized paper. Place them in a printing frame.



Step 5. Expose the paper and negative with the UV light source of your choice.

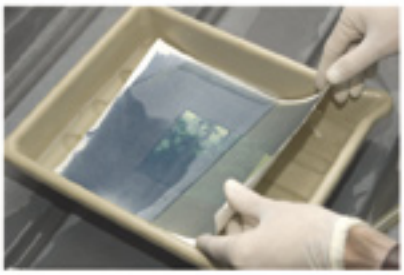


Periodically inspect print.

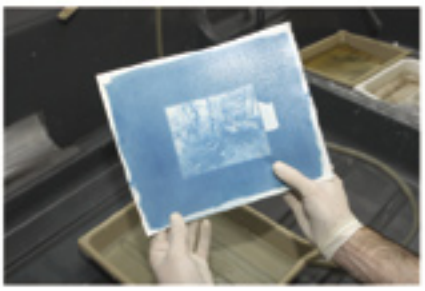


Cyanotype is a printing out process so the image can be seen as it exposes. Print until your highlights are slightly darker than you wish the final print to be.

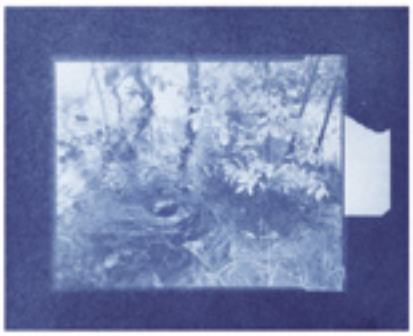
Step 6. “Develop” the image by soaking it in gently running water until the yellow chemistry stain is removed from the paper. If you over wash the image it will fade.

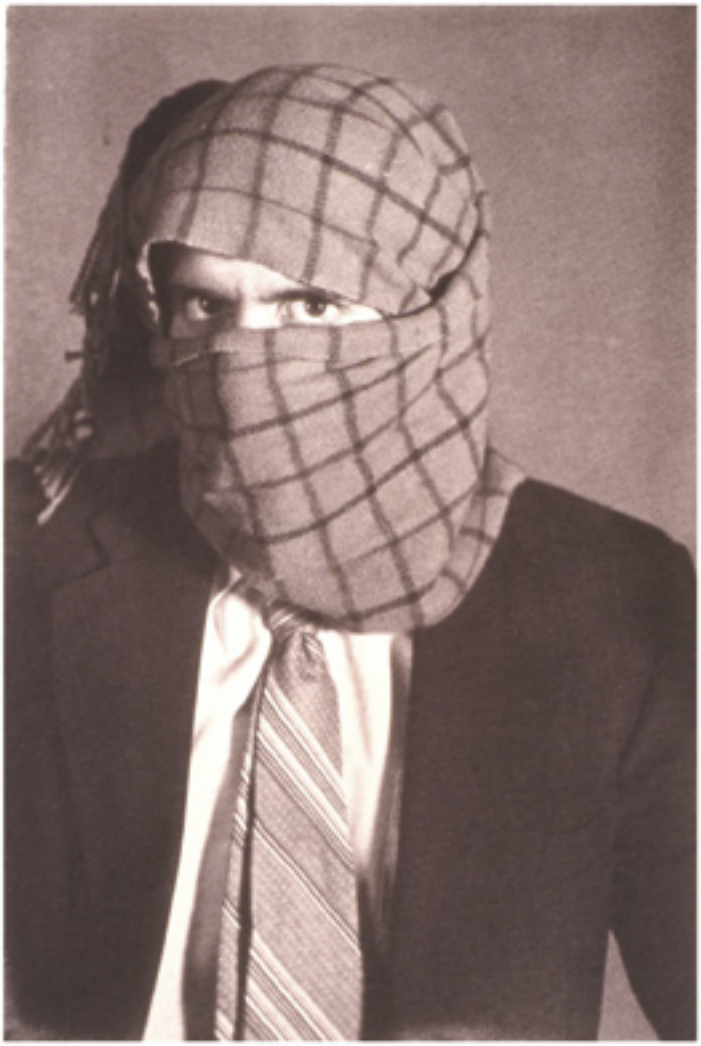


Step 7. Blot and Dry. The image will become a brighter blue in tone as it dries.



Step 8. (Optional) If desired, tone image in a tannic acid bath. The print MUST have been dried completely before using the toner. See the next section for detailed instructions.





© Fred Ata, *Untitled*, 2003, Toned cyanotype, 8x10 inches.

Cyanotype Toning

While there are a number of toning options for cyanotypes the most common is tannic acid toning (also known as tea toning.) The other toning options are not really worth the effort. They use chemistry that is more dangerous for results that could be better created in another, safer process.

Tannic Acid Toning for Cyanotype

Tannic acid toner is a two tray toner that produces brown-black to purplish hues. This toner is very forgiving. Practically any amount of each chemical will work. In fact most formulas are stronger than the one listed here. Slightly darker prints work well as some density can be lost during toning.

Materials you will need:

Gloves

Safety goggles

Chemistry you will need:

Chemistry amounts are flexible. (Some formulas use 15 grams and some 1-teaspoon, for example.) Solution A may be made with a teabag in place of the tannic acid. One of my students recommends Bigelow brand Earl Grey as his favorite. Fruit teas do not work as they have little or no tannic acid in them.

Solution A

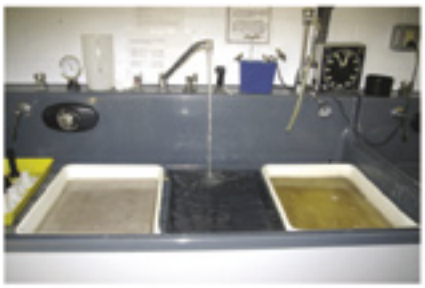
Tannic acid	10 grams
Water	1 liter

Solution B

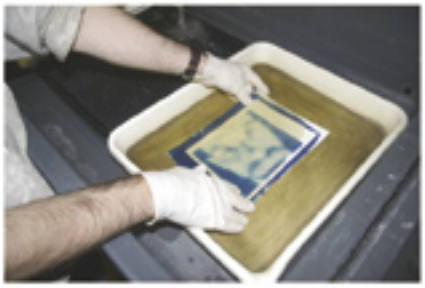
Sodium Carbonate	10 grams
Water	1 liter

Cyanotype Toning Procedure

Step 1. Set up chemistry in two trays; one containing solution A, one containing solution B.

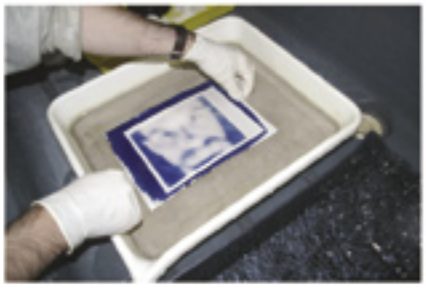


Step 2. Start by immersing a print in the tray containing Solution A. Use 2 minutes as a guideline but the time is up to you.

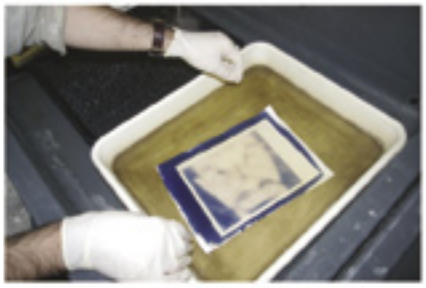


Step 3. Rinse print in clean running water for approx. 1 minute.

Step 4. Place the print in the tray containing Solution B for about 15 to 30 seconds.



Step 5. Then place the print back in Solution A. Watch carefully as the color changes; pull the print out just before the color desired. If unsatisfied with the results steps 1-4 may be repeated.



Step 6. Wash print in gently running water.

Step 7. Dry print on a clean dry surface or line dry.

Before toning

After toning

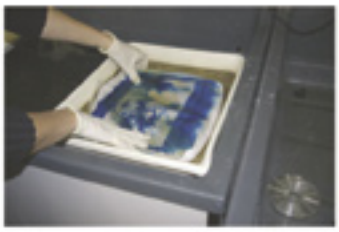
© Melissa Boyajian, *Untitled*, 2003, Toned cyanotype, 8x10 inches.

Cyanotype on Fabric

Cyanotype can be printed on cloth as well as paper. When using cloth, 100% cotton fibers work best though linen and silk have good results as well. Wash the fabric to remove any sizing before using. When coating the cloth, completely saturate it with chemistry. Dry, expose, and process as usual.

© Jessica Hosman.

Cyanotypes on fabric can also be toned. Use the same process as explained in the preceding section.



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