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(505) 474-0890

Gold Toning Kit for Printing Out Paper (POP) Instructions (also works for Van Dyke, Kallitype, Albumen and Salt Prints)

Thank you for purchasing the Bostick & Sullivan gold toning kit for POP paper. With this kit you will be able to tone POP paper or similar prints to enhance their permanency, preserve their full tonal range, prevent loss of values through the fixing stage, and change their tonal color to a cooler blue with some maroon or purple shades possible. Good luck!

What you get in the kit -

- A: 500ml Ammonium Thiocyanate solution 2%
- B: 500ml Gold Chloride solution 0.2%

These are stock solutions which you will dilute to make the toner.

What else you will need:

- POP paper or other type prints
- 100-200gm Sodium Thiosulfate (Hypo) crystals as fixer
- Assorted trays, water and a graduated cylinder

Mixing the toning bath -

1. In one tray, measure out 1000ml (1 liter or roughly 1 quart) of clean tap water or distilled water and add 50ml solution A and 50ml solution B. This is your toning bath. Often when first mixed, the gold will momentarily turn a brown or orange color in the toning bath but should quickly redissolve into solution.
2. Also at this time, in a second tray dissolve 100g sodium thiosulfate (hypo) in 1000ml water, stir, or agitate thoroughly to insure that the smallest crystals are completely dissolved. Even very small crystals will cause stains and unevenness when they settle on your print.

Preparing the print -

1. Select an appropriate negative. POP paper likes very dense, fairly contrasty negatives but because of its self-masking qualities a wide range of negatives can be successfully printed.
2. Remove the POP paper from its box carefully handling it by the back and edges only, to prevent stains and fingerprints on the delicate emulsion. This can be done in regular or subdued room light, away from strong light like the sun or UV printing lights.
3. Sandwich the negative and paper together, emulsion to emulsion. Place them between two sheets of glass or in a contact printing frame. Because POP is a print-by-inspection system, a hinged back contact print frame (also available from Bostick & Sullivan) is best because it allows you to inspect the print occasionally without losing negative registration. Make sure that your negative and paper are both completely dry, even small drops of water or wet fingers can cause your negative and the paper to stick together, usually resulting in irreparable damage to the negative.
4. Expose the paper in the sun or under a full spectrum artificial light source. Watch as the edges and shadows of the print begin to develop up spontaneously, soon turning to a rich purple or red color. As exposure continues, you may occasionally check the progress by opening one half of your contact printing frame and peeling the paper back to look at the image's progress. Always check your print in subdued light or shade to avoid fogging the paper.
5. Over-print the image until it is one or two shades darker than your desired final print. You will lose some density in processing. Remove the paper from the print frame when ready.
6. Rinse the print in gently running water for 2-3 minutes. This is to remove the excess silver and prep the surface to evenly absorb the toner. While rinsing, the print will lighten a shade or two and shift color a bit towards red. Watch as the excess silver reacts with the chlorine in your tap water; it forms a purple mist which will float off your paper.

You are now ready to tone your POP paper.

Toning the POP print -

The toning process is sometimes quite subtle. While toning, watch the progress carefully so you can learn to make fine gradations in toning. Wear gloves and minimize exposure to the toning bath. Note that the true final color and density of the print will not be observed until after the final fixing, rinsing and washing.

1. Remove your print from the water rinse carefully, only touching the back or edges. Submerge it in the gold toner bath. Try to cover the whole print quickly and evenly. Begin agitating the tray immediately.
2. Watch as the toner moves through the print, usually in the shadows first, subtly changing the color of those areas. When you start to notice more dramatic changes, the toning is nearly complete.

3. For cooler tones (more blue) allow the print to tone until no further change is observed. For more red/brown warm tones pull the print from the toning bath earlier.
4. Remove the print from the toner and submerge it quickly and evenly in the fixing bath of sodium thiosulfate, continue to agitate. The fix might bleach out some of the remaining silver and may warm up the image. Fix for 10 minutes.
5. After fixing, rinse for 20 minutes in running water. Dry the finished prints on screens or clean blotter paper. Note that the prints will have a significant amount of "dry down". They will get darker as they dry.

Congratulations, you now have a very permanent gold-toned silver image.

Replenishing the toner -

With every print that is toned, a portion of the gold chloride is used up. Eventually it needs to be replenished with the addition of more gold chloride solution B. There are two different ways to do this:

1. Assume that each print uses up approximately 5ml of gold chloride. Add 5ml of solution B after each print to maintain a full strength solution. This technique is better if you regularly tone to maximize the blue cool tone.
2. Watch the prints carefully as they tone and notice that the toning bath will slow down after several prints. When the toning slows down to an impractical speed, add 25ml gold solution B to bring it back up to normal. This method is better if you are partially toning for warmer prints.

Variations for Kallitype, Van Dyke, Salt prints, Albumen, etc.

The toner will work just as well on these processes as on POP with a few necessary changes to the basic procedure outlined above.

Expose your prints as appropriate to the specific process. Follow the standard rinsing and clearing instructions for that type of print, but do not fix them before toning.

While most types of prints are toned before fixing, some sources say the Van Dykes are better toned after fixing and rinsing. If you get bad staining try toning your Van Dykes after fixing.

Remember that POP has a thick gelatin emulsion and it takes time for the toner to work its way through to the silver. Prints without gelatin (Van Dyke, Kallitype etc) will tone much faster than the POP paper. Adjust accordingly.

Fix the print according to its own process requirements after toning. Rinse and dry as usual for that type of print.

On some types of prints the toning will be faint until the print is fully dried.

For questions, comments or troubleshooting, call Bostick & Sullivan at 505-474-0890, or email leigh@bostick-sullivan.com, dana@bostick-sullivan.com, or melody@bostick-sullivan.com. You may also find useful information on our forums, accessed through our website at www.bostick-sullivan.com.

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