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(505) 474-0890

Platinum and Palladium Printing Instructions

For Bostick & Sullivan's Professional Printmaking Kits

Note: These instructions cover several Platinum/Palladium printing kits. Your kit may not contain all of the components discussed herein. Familiarize yourself with the kit components before starting.

This kit provides the essential chemicals in standardized form. No mixing is necessary, you can begin printing almost immediately without the time consuming weighing and dissolving steps. For your safety and maximum success with these photographic chemicals, read all instructions before beginning to print.

Your kit will contain a combination of the following:

- (1) 25ml ferric oxalate #1 solution
- (1) 25ml ferric oxalate #2 (pt or pd) solution *-traditional kit or classic palladium kit only*
- (1) 25ml Palladium #3 solution *-not in platinum printing kit*
- (1) 10ml Platinum solution *(Platinum #3 in the traditional kit, 5% Na₂ in kit for digital negatives, 20% Na₂ in the combination kit)*
- (1) 32oz B&S ammonium citrate developer
- (1) 250g EDTA clearing agent
- (1) 250g Sodium Bisulfite (for clearing)

You will also need the following items not included in your kit:

- Paper – a good 100% rag art paper with a fairly hard surface
- A brush or coating rod
- A light source – you can use the sun, UV CFL bulbs or a UV exposure box
- A negative as large as the desired image

SAFETY NOTES

ALL CHEMICALS SHOULD BE USED WITH CAUTION AND KEPT OUT OF REACH OF CHILDREN

When using a hair dryer to dry your paper, tiny particles of emulsion may be blown into the air. If inhaled, the dust could be harmful. It is advised to wear a dust mask when drying prints with a hair dryer.

We recommend a beginning platinum/palladium printer be under the supervision of an experienced platinum/palladium printer.

Notes on the Kit Chemicals

Ferric Oxalate #1

This is the classic 27% solution and is the same for platinum and palladium. Ferric Oxalate is the only light sensitive compound in your kit. Limit its exposure to sunlight and intense UV.

Ferric Oxalate #2

This solution is also 27% and has a small amount of potassium chlorate added as a contrast agent. The #2 solutions have different amounts of potassium chlorate for platinum and palladium, the palladium requires twice as much chlorate to achieve contrast.

Note: By mixing ferric oxalate solutions #1 and #2 with your platinum/or palladium solutions in varying amounts you can control the contrast of your traditional print. If you are printing with a mixture of both platinum and palladium, you should use the ferric oxalate #2 solution for palladium. Just use less #2 for the proportion of platinum solution.

We mix the ferric oxalate solution from our exclusive yellow powder just before shipping so that it will be as fresh as possible. It has a shelf life of approximately 1 year, but will last longer if refrigerated, however it must be at room temperature when used. As with all photosensitive materials, it is very difficult to know precisely how long the material will last. **DO NOT STORE WHERE A CHILD CAN REACH IT.**

Platinum and Palladium Solutions #3 -

These solutions will last a very long time; they do not oxidize or age. Be very careful not to contaminate them with ferric oxalate or any other chemicals and always use glass containers, never metal as the platinum or palladium will plate out on the container. Refrigeration is not necessary for these solutions.

Sodium Platinum Na₂ Solution #3

If you purchased an Na₂ kit or Digital Negatives kit, your kit will include a bottle of Sodium Platinum Solution NA₂ in a 5% or 20% dilution. This is a high contrast Platinum solution which is used in place of both the Ferric Oxalate Solution #2 and the traditional Platinum Solution #3 (Potassium Chloroplatinite). **DO NOT** use traditional platinum solution #3 or Ferric Oxalate solution #2 with this solution.

Ammonium Citrate Developer

For developing the image after exposure. This is one of several developers used in platinum/palladium printing. It can be saved and used over and over again as long as you replenish what evaporates with fresh developer, and filter out the sludge that accumulates periodically using a coffee filter and plastic funnel. The color will darken due to dissolved metal accumulating in it. Many printers swear the older the developer, the better. Other printers prefer to start with fresh developer every once in a while.

EDTA Clearing Agent and Sodium Bisulfite

Use these two powders together and add to water. Use 2 tablespoons of each to 1 quart of water. This is not a critical measurement; less will just take longer to clear, more will clear faster.

Some Basics

Your Negative

To begin with, you need a negative the size of the image you wish to make. Any size from 2 1/4 up will do. Small negatives make beautiful jewel-like prints. The negative should have a density range of 1.35 to 1.50. This will give a print with a full rich tonal range. Platinum and palladium have the unique ability to make soft prints with a strength and character. Printers at the turn of the century used this quality to their advantage and produced beautiful luminous soft images. Prints like this are not often being made today. Like avocados, the soft print is an acquired taste.

Large Format Negatives

Shooting large format negatives with your camera provides the sharpest, highest definition platinum/palladium print possible. We recommend shooting on readily available films like Ilford HP5 and Ilford FP4. Develop your film in a high contrast developer like Kodak D-19, or Pyro based developers like Rollo Pyro or Pyrocat-HD.

Inkjet Digital Negatives

Excellent Digital Negatives can be made from almost any digital image file. Negatives can be made from scanned images or RAW digital files from your DSLR. Several excellent guides to making negatives can be found online.

Making The Print

1. Select a good 100% rag or cotton paper.
2. Count out the number of drops for all printing solutions into the same small plastic or glass container (about the size of a whiskey shot glass).
3. Tape the upper corners of the paper to a table top or coating board. Lay your negative, or a mask the same size as your negative over your paper, then faintly mark the borders or corners of your image area in light pencil. This gives you a guide for the area to be coated.

4. Quickly pour the coating solution across the center of the paper and rapidly spread it as evenly as possible. Soon the wetness of the paper will dull and you won't be pushing puddles around the paper. Stop brushing at this point. Don't worry about some streakiness, it usually won't matter. Wash the brush thoroughly before using it again, any solution left on the brush will be exposed and contaminate your next print.
5. Let the solutions soak into the paper for about 10 minutes and then put it in a dark place to air dry or dry with a hair dryer. Make sure the paper is completely dry before use. An exposed image will have splotchiness in the areas that were not completely dry before exposure.
6. Place the negative on top of the coated portion of the paper and place it in a split-back contact printing frame.
7. Expose the paper using sunlight, a suntan type mercury vapor lamp, or UV Exposure Unit. The artificial light sources should be placed 3 to 4 inches above the paper or higher if using Nuarc type screen printing unit. Printing time will vary depending on your light source, the density of your negative, and the paper used. Using a sun lamp to expose a 4x5 negative will take about 3 to 8 minutes. Dense negatives can run a half hour or longer.
8. After exposure, develop the print immediately. Do not use metal trays for developing the print as this will adversely affect the print. Pour the developer quickly over the print, pouring rapidly enough to break any air bubbles that may form on the surface. You can do this by pouring and at the same time tilting and sloshing the contents of the tray over the print. The print will develop immediately. Development is complete within a few seconds. Most printers leave the print in the developer for 1 to 2 minutes. The developer can be used from room temperature up to the boiling point; the print color and contrast will vary with the temperature.
9. Drain off excess developer off the print and then soak in 1-2 successive baths of clearing agent mixed 2 tablespoons of both EDTA and Sodium Bisulfite to 1 quart water, five minutes in each bath. Fresh clearing agent will clear up to a dozen 8x10 prints. Water hardness will sometimes affect clearing time. The clearing process removes the ferric oxalate from the print. If the print shows any yellowing in the highlights, it is not being properly cleared. Increase the concentration of the clearing agent or increase the time in the bath. Throw away the clearing bath when finished.
10. Finally, wash for 1/2 hour in gently flowing water. Dry, flatten, mount or mat in your preferred manner.

Drop Charts

These charts are starting points for making a print with each different kit. Adjust as needed to fit your personal printing style, negatives, and paper selection.

Na2 Platinum/Palladium Kit for Digital Negatives			
Negative Size	Palladium #3	Ferric Oxalate #1	Na2 5%
4x5 Negative	6	6	3
5x7 Negative	10	10	4
8x10 Negative	20	20	4 or 5

35ml Na2 Platinum & Palladium Combination Kit			
Negative Size	Palladium #3	Ferric Oxalate #1	Na2 20%
4x5 Negative	6	6	1 or less
5x7 Negative	10	10	1 or less
8x10 Negative	20	20	1 or less

- *20% Na2 can be diluted with distilled water if it seems to strong

35ml Traditional Platinum & Palladium Printing Kit				
Negative Size	Palladium #3	Platinum #3	Ferric Oxalate #1	Ferric Oxalate #2 (pd)
4x5 Negative	6	2	7	1
5x7 Negative	10	3	11	2
8x10 Negative	16	4	17	3

25ml Classic Palladium Printing Kit			
Negative Size	Palladium #3	Ferric Oxalate #1	Ferric Oxalate #2 (pd)
4x5 Negative	6	5	1
5x7 Negative	10	8	2
8x10 Negative	20	18	2

Platinum Printing Kit - 25ml			
Negative Size	Platinum #3	Ferric Oxalate #1	Ferric Oxalate #2 (pt)
4x5 Negative	6	5	1
5x7 Negative	10	9	1
8x10 Negative	20	18	2

