

SEPIA TONING

Sepia Toner gets its name from an artists' pigment made from the common Cuttlefish that lives in the English Channel, *Sepia officinalis*. Sepia Redeveloping Toner falls in the category of a conversion toner because it chemically alters the silver in the print. Sepia toning is a two-step process, sometimes known as an 'indirect toner'. First the color is removed from the silver in the emulsion by a Ferricyanide-Bromide Bleach. The bleach is thoroughly rinsed off. Then the Sepia Sulphide Toner imparts a new color to the silver, usually a brown to reddish-brown tone.

Technically the ferricyanide-bromide bleach converts the silver halide in the emulsion to Silver Bromide. The Sepia Toner then converts these crystals into Silver Sulfide that is actually more stable than metallic silver. The actual tone varies greatly depending on the negative, the brand and type of paper, and how the prints are processed in Fixer, Fixer Remover and Final Wash. The formulae of both the bleach and toner can also be varied to extend the range even further.

This process works from the highlights down. The bleach affects the highlights first because there is less silver in those areas. The sepia will only tone the silver that has been altered by the bleach. This makes it possible to 'split tone' by bleaching for as little as 10 to 30 seconds, rendering the highlights brown and leaving the shadows black.

The variable toner supplied by FotoSpeed is a set of three small bottles. Part 1 is the Ferricyanide-Bromide Bleach, while Part 2 is the Thiocarbamide or Thiourea Toner. The third bottle is an Activator made of sodium hydroxide that changes the pH and therefore the color of the toner. Set up five trays, one to hold a reference print under water, one for Bleach, one for a Water Rinse, another for the Sepia Toner w/ Activator and the last as a Water-Bath Holding Tray to use before the Final Wash. Use the properly labeled trays so it is clear to everyone in the lab what chemistry is being used where.

It is very important to remove ALL traces of yellow created by the bleaching by rinsing the print before toning. After Sepia toning you must then do a full Final Wash. The effect of Sepia toning can (theoretically) be reversed by placing the print into Print Developer. It is also possible to combine Sepia with other toners for varying effects.

TONALITY

The effect of Sepia Toner on photographs varies greatly depending on the brand and type of paper used. Warm-tone papers are generally more receptive, since they have smaller grain. [The smaller the grain the warmer the tone of the paper.] Some brands tone deeply while others are more subtle. The degree of fixing also has an effect. Be careful to fully and precisely Fix using the two-bath method, followed by Fixer Remover and a thorough Final Wash. If there is any Fixer remaining in the print, stains will appear that will be impossible to remove.

BASIC SEPIA TONING PROCEDURE

PRINTING ADJUSTMENT

The color that is removed by the bleach in the top highlights is never regained, partially because the black silver halide is being replaced by brown silver sulfide that is less dense and lighter on color. It is recommended that prints to be Sepia Toned have darker highlights.

One way to achieve this is to make a perfect print, and then make other prints one stop darker. The problem with this is the shadows may become too blocked up even after being bleached.

The best method may be to add the extra exposure with a #0 filter. This will darken the highlights without affecting the shadows. To do this, make the 'perfect' print, then place a #0 filter under the lens and make second exposure of the same time. Experimentation will yield the best way of working for your individual printing style.

BLEACHING

The Bleach bath removes the color from the silver in the print. The longer you leave your print in the bleach the more color is removed. The bleach attacks the highlights first. Only the silver that has been affected by the bleach will change color in the sepia bath. The length of time the print is left in the bleach is used to control the balance of black to brown to white. Bleaching by as little as 5 - 20 seconds removes just some of the color. The shadow areas will remain black while the highlights will turn sepia brown when toned. Bleaching a lot removes most or all of the color, yielding a print that will be almost entirely brown and white when toned. Keep your eyes open when bleaching. It is very important to have an un-toned reference print in water nearby to refer to.

RINSING

Take the print out of the Bleach and hold it over the bleach tray letting as much bleach drain back into the tray as possible. Be aware that the print continues to bleach while it is draining. Then immerse the print in a tray of water to rinse. It is imperative that ALL bleach be rinsed from the print before placing it in the Toner. Too much carry over of bleach into the sepia tray will contaminate the toning chemistry and it will become useless. The water in the rinse tray should be changed whenever it gets too yellow, usually after every few prints.

TONING

The rinsed print is then transferred to the Toner bath. The change in color happens relatively quickly, and after several minutes the print will not turn any further brown. If the effect is not strong enough the print may be re-rinsed and then put through the cycle again. A fully sepia toned print will not look as dark as an un-toned print because the black color of the silver is being replaced with sepia which is brown and less dense. This is why it is recommended that you **print darker** than normal when you know you will subject that print to sepia toning.

WASHING

Complete the processing with a full length Final Wash.

SEPIA TONER, cont'd

TONER CAPACITY

Do not mix up any toner just to tone a couple of prints. A 30 oz. tray has a capacity of toning 25- 8" x 10" prints, more if the image is significantly smaller than the full paper size. If you do not have at least 25 prints to tone, find someone else to tone with!

It is suggested that students work together and tone a larger group of prints. Unless the chemicals are exhausted, leave the filled trays out in the lab and clearly label what is in which. This will allow other students to tone their prints without bankrupting the Photo Lab. Do not, however, leave trays if you do not know if anyone else will be toning later. This just creates havoc in the Darkroom and can take up unnecessary space in the sink.

PRACTICAL BLEACH USE

The bleach that comes with the Fotospeed Vario kit works in a peculiar way. The change in the chemical composition of the silver is not always readily visible.

For **lightly sepia toned prints**, put the print into the Bleach bath for only 5 seconds. Remove and then wash thoroughly.

Additionally you can do a 5-second bleach, remove the print from the bleach bath, then place it in a holding tray. Watch the print carefully until the residual bleach starts to lighten the silver. Then wash with water to halt the bleaching action.

ALTERNATE BLEACH USE

If you are only bleaching, DO NOT use the bleach from the Sepia Toner kit. This will leave the Lab with Sepia Toner kits with no matching Bleach component. Use either Ferri Bleach or Bromi Bleach. Ferri Bleach will produce a more reddish (warm) tone, while the Bromi Bleach will render the print more yellow (cool). These two bleaches can be mixed 1:1 to produce the equivalent of what is in the normal Sepia Toner Kit, Bleach, Part 1.

Both the Ferri and Bromi bleaches can be used in place of the standard Sepia Toner. Especially if you want a better visual shift when you are toning. Each will cause the Sepia toner to render different tonalities.

KEEPING TRACK

Write numbers on the backs of the prints so you or your friends can write down what you are doing as you tone, especially if you work in a more intuitive way. It is important that you know how to reproduce a toned print, especially if you get something unique that you really like. Otherwise you have not really learned much.

SEPIA TONING VARIATIONS

FULL SEPIA TONING

FULL BLEACH> RINSE> SEPIA TONE> WASH>

Leave the print in the bleach until almost all of the color is gone. Wash the print for at least 2 minutes. Then immerse the print in the toning bath. All tones in the print will shift to brown, including the shadows. This may cause a loss in contrast because the appearance of the shadows is no longer a deep color.

SPLIT TONING

SHORT BLEACH> RINSE> SEPIA TONE> WASH>

Reducing the time in the bleach bath to a much shorter duration will only affect the highlights and maybe the midtones. A time as short as 5 to 30 seconds will produce a very subtle warm tone to the top end of the print. A slightly longer bleach bath will produce sepia-brown highlights. An even longer bleach bath will allow the midtones to bleach out and then they will also appear brown. Again – it is the time in the bleach that controls the color of the print, not the length of time in the Sepia Toner.

PRE-SULFIDING

SEPIA> RINSE> BLEACH> RINSE> SEPIA TONE> WASH>

Placing a print in the Sepia Toner *before* the Bleach Bath adds sulfide to the silver. This makes it react differently to the bleach. The result is a cooler tone, especially in the shadows.

PRE-DEVELOPING

BLEACH> RINSE> WEAK DEVELOPER> RINSE> SEPIA TONE> WASH>

Placing a print in a very weak Print Developer *after* the Bleach but *before* the Sepia Toner alters the silver in a different way. The result is cooler darker shadows, to almost a cool-tone effect on some papers. The time in the Developer is the controlling factor.

Mix 1 oz. of Sprint Quicksilver or Edwal Platinum II Print Developer into 29 oz. of water.

REVERSE SEPIA TONING

FULL BLEACH> RINSE> VERY WEAK DEVELOPER> RINSE> SEPIA TONE> WASH

This is an extension of the Pre-Developing technique described above. The print should be fully bleached. Then it is re-developed in a very weak Print Developer. If this development happens slowly enough, then only the highlights and maybe some midtones get re-developed. This will inhibit the Sepia Toner and it will only tone the shadows that have *not* been re-developed. Be careful with this technique because it can easily produce 'tacky' results.

SEPIA TONING VARIATIONS, cont'd.

TRIPLE BAND TONING

SHORT BLEACH> RINSE> YELLOW SEPIA TONE> RINSE>

SHORT BLEACH> RINSE> PURPLE SEPIA TONE> WASH

This is an extension of Split Toning technique. Bleach for a very short time, and tone as usual. This will affect only the top highlights. Then bleach and sepia tone a second time. The highlight areas that took up the Sepia Tone in the first pass will resist the second bleach. The result is a bleaching and toning of a second band of tone in the lower highlights and some midtones. This produces an extended range of altered tonalities. Using different blends of Vario Sepia Toner will produce even greater variation!

This can be done several times more, each time the color of the toned areas will be different. There is no easy way to predict what these colors will be, due to the differences between papers and processing.

GOULD'S TECHNIQUE

FULL BLEACH> RINSE> SEPIA TONE> RINSE> BLEACH> FIX> WASH

This process, named for John Gould, is similar to the double-toning process above, except instead of toning the second time, just fix the print. If the second bleach is very brief the print will appear sharper. If the second bleach is longer it is possible to get a middle band of tones to bleach out lighter than the top band, producing a partial tone reversal look. Further re-bleaching and re-toning of the middle band will not (theoretically) be possible.

BLEACHING BACK

SLOW BLEACH> WASH

Simply bleaching a print can render beautiful results. A yellowish color is created as the bleach removes the color from the silver. If a dark print is bleached, the highlights will turn yellow-brown as they come back to the desired saturation and will have a somewhat degraded appearance.

This technique requires a print with darker highlights. Two techniques to achieve this are described above under 'Printing Adjustment'.

This can be followed with Selenium to put a violet tone into the shadows. Since yellow and violet are complimentary colors, this is a good combination. Careful control can leave the midtones grey, a three-tone split!

If you are only bleaching, DO NOT use the bleach from the Sepia Toner kit. See the statement under 'Alternate Bleach Use', above.

Ferri Bleach produces a more reddish (warm) tone, while the Bromi Bleach will render the print more yellow (cool). Each Bleach will render different tones when used with Sepia.

SELENIUM COMBINATIONS

SHORT BLEACH> RINSE> SEPIA TONE> RINSE> SELENIUM

Selenium following a normal Sepia gives a beautiful tonal range, starting with warm sepia brown highlights into neutral midtones and down into deep violet shadows.

SHORT SELENIUM > RINSE> BLEACH> RINSE> SEPIA TONE> WASH>

Theoretically, Selenium seals the silver in a print. Practically, however, Sepia toner can be used after Selenium to produce a unique look.