

## HINTS TO TONING

### INTRODUCTION

Fotospeed toners have been specifically designed for the toning of black and white silver based emulsions. This applies to both film and paper. The toning process involves the conversion of the black silver within the print to another metallic compound. When correctly toned, the image will be chemically stable. Toners such as Selenium and Gold are ideal for archival permanence techniques.

Toning techniques are carried out after the print has been fully fixed and washed and are therefore performed under normal daylight conditions. If, as in the case of an old print, you have any doubts as to whether it has been fully fixed and fully washed, then refix and rewash before proceeding. Toning is very much in the creative domain of the user. When toning it is important to observe the shift of colour in the print. Times given in the instructions should therefore be used as a guide only.

Fotospeed toners are available as liquids and fall into two categories. Two bath working solutions i.e. ST20 Vario Sepia Toner, ST10 Non vario Sepia Toner and single working solution toners i.e. PALETTE Toner, 20 Blue Toner, RT20 Copper/Red Toner, SLT20 Selenium Toner and AU20 Gold Toner. In the case of the two bath toners the print is bleached first and after a short rinse, toned in the second bath. The print can be bleached for as little or as long as the user requires. Full bleaching of the print, i.e. When the whole image has virtually disappeared, will allow the pure colour of the toner to be re produced in full. Partial bleaching of the print will leave black silver in the image and there fore give the final tone a darker colour due to the underlying silver still in the print. In the case of single working solution toners the bleaching and toning processes are simultaneous. To arrest the toning process the print is removed from the toner and washed. As with all these techniques it is the user's personal preference which is paramount. After any toning process only good washing is required, there is no requirement for fixation.

### CHOICE OF PAPER

Fotospeed toners are suitable for all silver based emulsions. There are many types and makes of photographic paper available and all are suitable for toning provided there is silver in the print. (It should be noted that some Black and White Prints produced commercially in colour laboratories will have used a special B&W paper that goes through the RA4 colour process. These prints will be silverless after processing and therefore will not be able to be toned. Watch out!) Each paper will have its own inherent characteristics according to how they have been manufactured. As a result each paper will produce a slightly different shade, depth and quality of tone.

Resin coated variable contrast papers are the most popular and readily available. The plastic coating makes them easy to handle and they will require minimal (2 minutes) washing times. The lightweight emulsion coating and plastic coating means that they may require longer toning times and will produce less tonal vibrance than fibre based papers.

Fibre based papers absorb toners well and produce rich hues. They require less toning time but infinitely more washing and more careful handling than resin papers.

Graded papers will vary according to the grade. The higher the grade the stronger the tone.

Variable Contrast Papers have a complex structure of emulsions for the toner to penetrate and will require greater toning times.

The higher the silver content within the paper the better the quality of the toned image.

Which ever paper is used, it is important that all prints are well fixed and washed before toning. Handle prints carefully as any mark or blemish in the print will be exaggerated in the toning process. This is particularly important when using blue toner.

### IMAGE DENSITY

Sepia Toner ST20 and ST10 Sepia Toner should return the image to the density of the original print.

Therefore no additional print density is required. Where very fine detail in the highlights does not return it is most likely due to the solution being too cold.

- Blue Toner BT20, particularly when used to obtain a dark blue, can add density to the image. If a final toned image of "normal" density is required, the image of the original print for toning should be sufficiently lighter to compensate for the gain in density during the toning process.

- Conversely, the Copper/Red Toner RT20 has a reducing effect on the image density during toning. The image prior to toning should be sufficiently darker to compensate.

- Selenium Toner SLT20, being a true selenium toner, will add contrast to the image. The final effect will show a crisping of the black areas and an increase in contrast of approximately half a grade.

- Gold Toner AU20 should be treated as per Sepia Toner.

### SPLIT TONING

Options for toning are not limited to just the use of one toner per print. Split toning is a technique whereby toners of different colours are used sequentially to allow more than one colour to react with the image and

create a blend of colour. The technique requires the reduction of time in the first toner (in the case of sepia then a reduction of time in the bleach), leaving sufficient un-toned silver for a reaction with the subsequent toner. Choose a subject with good tonal range. Split toning is not an exact science. Results can be a little unpredictable but as a general rule, the highlights will take the colour of the first toner, the shadows the colour of the last toner and the mid tones in the area of the "cross over" a mixture of each. Extending the time in the first toner will push the "cross over" further towards the shadows with more of the first tone appearing in the highlights and mid range and visa versa. Always wash the print well when transferring from one solution to the next.

### SPLIT TONING SUGGESTIONS

Follow the instructions for using the toners but reduce the time in the first solutions to 25% of that required for a "normal" toned print. Wash the print well prior to immersing in the second toner. Leave in the second toner until the required effect is seen then remove and wash.

- Sepia then blue produces sepia highlights with blue shadows and green mid range.
- Copper then blue produces mauve, mauve blues and blues.
- Sepia then Selenium produces brown purples.
- Selenium then Gold produces purpley blue mid tones.
- Blue then Selenium produces blue shadows and buff highlights.

### GENERAL HINTS

Make up sufficient solution to allow the print to be fully immersed in the toning solutions. If there is insufficient solution toning will be uneven. Continuous agitation will keep the solutions moving across the surface of the print and prevent localised exhaustion of the toner. Once toner concentrates have been mixed they will begin to oxidise in the open dish. The greater surface area exposed to the air the more rapid the oxidation will be. Concentrates will keep in tightly capped bottles so it is better to make up smaller quantities of working solutions as required.

Toning often produces a 'scum' on the surface of the print which is not noticed until the print has been dried. To ensure that scum does not appear on the dried print it is advisable to rub the surface of the print during the final wash with either wet cotton wool, kitchen towel or a J cloth making sure that the print is on a flat surface during rubbing. Return the print to the wash before drying.

Contamination of solutions can cause disappointing results. Always take meticulous care when toning and ensure that all equipment is clean before use. Chemical residues in dishes can contaminate solutions and produce inconsistent results. Rinse prints in a water bath when moving from one solution to the next unless otherwise stated as this will help to prevent cross contamination and improve the life of the toner. Follow the mixing instructions carefully.

Always follow the health and safety guide lines with each kit. Wear impervious gloves and/or use tongs when handling prints in the solutions. Work in a well ventilated room.

Fotospeed **ST20 SEPIA TONER** is an odourless variable toner that will produce a wide range of sepia tones. ST20 is a two bath sepia toner supplied as a three part concentrate. Part 1 is the bleach which dilutes with water to form a working solution. Part 2 is the toner which dilutes with water to make the toner working solution. Part 3 is the additive which gives the toner solution the shade of sepia. This concentrate is added directly into the toner working solution. The quantity of part 3 added to the toner solution will vary the sepia colour from yellow sepia through to dark chocolate sepia. If too much part 3 is added to the part 2 working solution the sepia hue will be so dark brown that the print will have the appearance of a black and white print. For full information on this toner see the relevant section of this booklet.

### BLEACHING

ST20 bleaching solution will slowly remove the image from the print. The solution will begin bleaching the highlight areas first and then move into the shadow areas until the image has been almost, though not completely removed. Where the image has been bleached the toner will redevelop the image in the chosen shade of sepia. Bleaching can be stopped at any time by removing the print and rinsing in water. The amount of bleaching the image receives will alter the final effect of the toned print. The more the image is bleached the purer the hue of sepia will be. The less time the print is bleached the more black silver will remain in the image and therefore the sepia will have a more black hue. Fotospeed bleaching solution has been designed to act slowly so that the bleaching times can be carefully controlled. If you require more rapid bleaching, add less water when diluting.

### TONING

The part 2 toning solution once diluted to working strength will need to be activated by a small amount of the additive. To achieve a yellow sepia only small quantities of part 3 should be added. The more part 3 added the darker the sepia shade.

**Fotospeed BT20 BLUE TONER** is an odourless single bath toner which is supplied in three concentrates. These concentrates are mixed with water and then combined in the dish to make a single working solution. A variety of blue tones can be achieved by varying the suggested dilutions of the concentrate and by varying the length of time the print is left in the solution. Full toning will occur after about 10 minutes depending on the density of the print. Once full toning has taken place remove the print from the solution and rinse in water.

A blue toned print can be further enhanced by intensifying or reducing the blue tone using working solutions of Fotospeed PD5 Print Developer and Fotospeed FX20 Fixer. Instructions for these techniques are given in the relevant section.

Blue toned prints will have an overall yellow stain on removal from the toner which is particularly apparent in the white areas of the print. This stain will disappear with washing. Any stubborn stains related to blue toning that do not wash out in the running water can be removed by either passing the print quickly through a weak salt solution (approximately 1 tablespoon diluted in half a litre of water) or wiping a swab of cotton wool soaked in print developer across the effected areas. Always rinse the print thoroughly and allow to dry naturally.

If any residual scum remains on the print after washing, this can be removed by rubbing the print with a piece of cotton wool containing 80% solution of acetic acid. Give the print a quick rinse and allow to dry naturally. Good washing cannot be overstressed with blue toner. Ideally tone past the point you want to be and wash the print back. Prolonged washing will regenerate the blue tone to black and white which can be very effective for getting a really clean, crisp blue tone.

**Fotospeed RT20 COPPER/RED TONER** is an odourless single bath toner which is supplied in two concentrates. The concentrates are diluted with water and combined in the dish to make a single working solution. The shade and depth of copper/red tone can be varied by the altering the suggested dilutions of the concentrates and by the length of time the print is left in the working solution. Full toning will take approximately 10 minutes. Once toning has been completed the bleach elements in the solution will continue to attack the image but no further change of colour will take place and the image will gradually reduce in density.

The copper /red toned print can be further enhanced by intensifying or reducing the colour using working solutions of Fotospeed PD5 Print Developer and Fotospeed FX20 Fixer. If a copper/red toned print is placed after washing into Sepia Toner (no need to bleach first) a reddish sepia tone will result.

A Copper toned print once toned and washed can be placed in a working solution of Fotospeed PD5 Print Developer as redevelopment occurs remove the print and wash briefly then place into the copper toner solution. This procedure can be repeated several times. With each process the image will become more solarised and the original shadow areas will take on a metallic look.

**Fotospeed ST20 SEPIA TONER BLEACH** can also add a further dimension to a copper toned print. A copper toned print after being washed can be passed through ST20 sepia bleach for 30 seconds or so and then washed. This process will shift the copper red tone to a brighter red and generally brighten the print. It is important to realise that when copper toning, a deposit is left on the surface of the print and prints should be rubbed with a wad of cotton wool when they first go into the wash to remove this deposit.

Using the same method but instead of ST20 Sepia bleach a working solution of Fotospeed FX20 Fixer, will give the shadow areas a blue cast and move the copper tones to a pinky hue. When manipulating an image with these solutions, always wash the print between each bath. Copper Red toner will exhaust quickly, so it is advisable to make up small quantities of working solution and replace with freshly mixed concentrates as needed.

Fotospeed AD10 ANTIQUE DYE is used after sepia toning to give prints that old fashioned nicotine stain in the borders. It can be diluted to alter the shade of yellow required. Once the print has been passed through the solution it should not be washed but wiped and allowed to dry.

### Fotospeed DY15 FOTODYES

Hand tinting with fotodyes can add just a hint of colour to an image. Fotospeed fotodyes are supplied in a kit of 11 colours and one reducer. Also the dyes will not leave any surface mark on the print, even on glossy paper.

## INSTRUCTION SHEETS

### ST20 NON VARIABLE

Fotospeed ST20 NON Vario Sepia Toner is an odourless toner which will produce a fixed sepia tone on both Fibre and Resin Coated B&W papers. It comprises two parts : Part1 - Bleach & Part 2 - Toner. Each part mixes separately to make two working solutions. This toner will give a traditional sepia colour with no control over the colour.

#### MIXING INSTRUCTIONS

Part 1: Bleach - Dilute 1+9 with water to make the volume of working solution.

Part 2: Toner - Dilute 1+9 with water to make the volume of working solution.

#### USAGE

Having selected the print to be toned ensure that it has been fully fixed and washed. In the case of dry prints, first soak them in water for 1 minute to ensure even take up of bleach.

1. Place the print in the bleach bath and agitate gently. Bleaching times may vary according to paper type.
2. After bleaching, place the print into running water for 1 minute for RC paper and 5 minutes for fibre paper.
3. Place the print into the toner bath, agitate gently and observe the image re constructing. Full toning will be completed in 1 minute with fresh solution.
4. Finally wash the print in running water. Wash RC papers for 2 minutes and fibre papers for 20 minutes.

#### CAPACITY

Both the Bleach and Toner working solutions can be kept for reuse in airtight containers. Both solutions will however deteriorate once used and a slow-down in activity should be anticipated together with a colour shift in the toner on subsequent prints. To maintain consistency of sepia tone, it is advisable to make up only small quantities (approx. 200mls) of working solution at a time. After putting 5 - 8x10 prints through 200mls of solution, it will become exhausted. Each litre should process 25 - 8x10 prints assuming average density.

#### PRINT QUALITY

If there is any doubt that the print to be toned has been fully fixed and washed, it should be refixed and rewashed thoroughly before beginning toning. Staining on a toned print can result from the print having been inadequately fixed and washed before hand.

Variable contrast papers may be slow to react with the bleach. If this occurs extend the bleaching time or make the bleach more concentrated. The whole procedure should be done under normal room or daylight conditions.

### BT20 BLUE TONER

Fotospeed BT20 Blue Toner is an odourless single bath toner which is supplied in three concentrates. These concentrates are mixed together with water to make a single working solution as per the table below.

WORKING SOLUTION(mls)	WATER (ml)	PART1 (ml)	PART2 (ml)	PART3 (ml)
4000	2500	500	500	500
3200	2000	400	400	400
2400	1500	300	300	300
2000	1250	250	250	250
1200	750	150	150	150
1000	625	125	125	125
600	375	75	75	75
200	125	25	25	25
120	75	15	15	15

#### MIXING INSTRUCTIONS

The kit consists of 3 parts and the table below shows the mixing sequence with equal amounts of each part.

#### TONING B&W PAPERS

Ensure that the print has been well fixed and very well washed before toning.

Mix up the required amount of working solution according to the table and pour into a processing tray. Place the print in the toning solution and agitate gently until the depth of tone is visually reached. Remove and wash well for 3 minutes or until the yellow stain has come out of the whites. A salt bath can be used to speed the removal of the yellow 'stain' from the highlights but wash well after. Dry the print naturally.

#### TONING B&W FILMS

Where possible ensure that the film is of optimum density and has been properly fixed and washed. Before toning dry film, soak them for about 2 minutes in water. Toning takes between 2-10 minutes depending on the density of the film image. For lengths of film such as 135/36 Exp. or 120/12Exp place the film before wetting into a tank spiral as for normal processing. In the case of pieces of film and sheet film then tray process.

Fill the spiral tank with the required volume of toner to submerge the spiral and agitate the spiral in the open tank continuously in both directions. Examine intermittently. A light blue 'fog' may appear during toning but this will disappear during the washing sequence.

Now wash the film for 5 minutes under running water and preferably use a rinse aid such as Fotospeed RA50 Rinse Aid in the final 30 seconds to ensure perfect uniform drying without streaking. Do not over wash the film since the toner will gradually wash out if the film is over washed.

#### INTENSIFYING (DARKENING) THE BLUE TONE

After toning and washing, the print can then be placed into B&W print developer diluted 1+9 for 2 minutes. The blue tone will completely disappear. Then wash for 1 minute and retone following the same procedure. The result will be an intensified blue tone. This procedure can be repeated several times to continue the intensification process. Prints for Blue Toning can be made lighter to compensate for the addition of density during the toning process.

#### INTENSIFYING (BRIGHTENING) THE BLUE TONE

Place the toned print into normal fixer diluted at 1+4 for one minute. This will remove the blue tone leaving a 'ghost' blue in the highlights. Then place the print into running water for 1 minute. If you like the image then dry to keep. Otherwise now place the print back into the blue toner and retone. The blue comes back brighter. The fixing process can be repeated and the print reblue toned for an even brighter result. Finally wash and dry.

#### CAPACITY

One litre of working solution will tone 6-135/36 Exp black & white films or the equivalent of 20 sheets 8x10in black and white paper. Once the toner darkens discard and replace.

#### STORAGE

The working solution will not keep. Concentrates of the three parts will keep for up to two years in full tightly capped bottles and for about three months in half full capped bottles.

The whole procedure should be done under normal room or daylight conditions.

### DY15 FOTODYES

Fotospeed DY15 Fotodyes are designed to be used on any photographic emulsion. As true dyes, they are completely absorbed by the emulsion leaving no surface marking. The dyes come in 11 different colours with one reducer. All the dyes can be fully intermixed and /or diluted to produce any colour or shade required. The dyes are extremely concentrated and caution should initially be exercised when diluting for use. It is very rare to use the dye undiluted except to colour 35mm title slides.

When using for the first time, we suggest you test the strength of colour on scrap prints. As a first test use 3 drops of dye to 1 teaspoon of water. You can then see the effect of stronger colour by adding more drops of dye.

#### APPLICATION

To obtain the best results prepare the surface by wiping over with a 2% solution of wetting agent such as Fotospeed RA50 but removing surface moisture before applying the dyes. While this step is not essential it will assist in even dye take-up particularly on large areas.

Although these dyes are water soluble, it is difficult to remove them with water since they are absorbed by the emulsion. The dye can be completely removed by using the Reducing Agent in the kit undiluted with a cotton bud. After removing the dye remove the surplus reducer with damp cotton

wool before drying the print.

#### COLOUR PRINTS

To add strength to weak areas use a dilute solution of the required colour. Use a cotton wool swab for large areas but remove surplus dye with slightly damp cotton wool to prevent uneven run down. These dyes are ideal for retouching colour prints as no surface mark will be left by the dye.

#### BLACK AND WHITE PRINTS

The techniques described for colour prints can be used to hand colour B&W prints. Where toning has been used the Fotodyes can add selective subtle colour to small areas of the print. For retouching untoned black and white prints the Fotospeed DY10 B&W Retouch Kit is more suitable.

#### COLOUR TRANSPARENCIES

Off colour transparencies will be greatly improved by immersion in a dye bath complimentary colour, but do remove surplus dye before drying.

#### RINSING AND DRYING

If large areas have been dyed whilst others have been kept dry with Fotomask remove the Fotomask before drying and wet the complete print or film to avoid cockling during drying. This step is not necessary if only small areas have been dyed or spotted.

#### OTHER USES FOR FOTODYES

Undiluted, these dyes are ideal drawing inks of greater purity and brilliance than water-proof inks. Containing no fluorescence, they photograph true to colour. Diluted and applied by airbrush they are used to produce coloured showcards, exhibition signs, etc. The dyes are in a highly concentrated form, however where greater saturation is required, add 0.5% of Acetic Acid to the dye which will increase saturation by up to 50%. Do not dilute the black dye. All other colours can be diluted to form pastel colours. All colours can be intermixed to produce a limitless range of colours.

### AD10 ANTIQUE DYE

Fotospeed Antique Dye AD10 gives a sepia toned print that ancient mature look. Modern papers have white highlights. Old prints have 'nicotine' stained highlights. Antique dye enables you to recreate the old look of the prints of yester-year. A single solution, that is very simple to use but very effective.

#### USAGE

While the process is most effective with sepia tones prints, it can be used with straight black and white prints. Ensure that the print has been fully washed prior to Antique Dyeing since the print should NOT be washed after, but simply wiped with tissue and allowed to dry naturally.

Dilute the AD10 from 1+9 to 1+29 according to personal taste and place the print into the solution. Observe the slow change and remove when the effect required has been achieved.

Do not wash or rinse. Only wipe the surface dye off the print and allow to dry naturally. Rebottle solution for reuse.

### DY10 B&W RETOUCH

Fotospeed DY10 B&W Retouch Kit is suitable for use on all black and white prints. The kit contains Black dye, Grey dye and Burnt Sienna dye. The dyes leave no surface marking.

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