

darkroom

chemicals, film and photographic papers

[intro](#)

Black-and-white chemicals and film
Colour chemicals FX-50 developer
Chemical hazards

[black-and-white film developers](#)

Paterson FX-39 high definition developer
Paterson Acutol
Paterson Aculux 2
Paterson FX-50 (Single or two bath film developer)
Paterson Universal
Paterson Acuprint
Paterson Acugrade

[black-and-white toners](#)

Paterson Acutone Sepia
Paterson Acutone Red
Paterson Acutone Blue
Paterson Acutone Selenium

[black-and-white auxillaries](#)

Paterson Acfix
Paterson Acuwet
Paterson Proclens - New Size

[black-and white film, papers and chemicals](#)

Acupan 200 black-and-White Film
Phototec 100 Black-and-White Film
Phototec 400 Black-and-White Film
Paterson Acugrade Variable Contrast
Black-and-White Paper
Paterson Acugrade Variable Contrast Paper - Pearl Surface
Paterson Acugrade Warmtone Variable Contrast Paper

[photocolor colour chemicals](#)

Photocolor Chrome Six (for E6 slide film)
Photocolor 11 (for C41 negative films)
Photocolor 11 Press Kit
Printmaster RA (Universal temperature)
(Developer/Replenisher)
Printmaster RA starter
Photocolor Universal Bleach-Fix

[film data](#)

Paterson Film Developers
Paterson black and-white Film Developers

black-and-white chemicals and film

There is now a rich variety of films, papers and chemicals for the photographic process, and it can appear daunting to have to choose from such an array to perform a simple task.

This section describes each of the Paterson chemicals and relates them to the various films and papers available..

Each of our chemicals are formulated and manufactured to enable the best image quality to be obtained and to reduce the complexity of some of the processes. We now market our own black-and-white film and paper and we test all our developers with these and most other brands available - see the chart on page 9 for compatibility and developing times..

colour chemicals.

The new range of Photocolor film and paper chemistry described in detail on page 8, is especially designed to meet the needs of photographers requiring to process and print small to medium size quantities of film and paper. All of the Photocolor chemicals feature easy mixing often from a single concentrate, so allowing small quantities of working strength solutions to be accurately mixed.

Most Photocolor chemicals are now supplied in individual distinctive red bottles allowing the user to balance their requirements of developers against bleach fix. The two exceptions are Chrome six (E6) and the Photocolor II (C41) press kit which are supplied as complete kits.



Acu 500, and 1000ml chemical packs

FX-50 developer

Is it the worlds best black and white film developer?

- A new type of film developer formulated by Geoffrey Crawley
- ECO friendly it contains neither Metol or Hydroquinone
- It gives a new standard of tonal reproduction, speed, grain and definition
- Offers both single and two bath development techniques
- Optional film speed increase of up to 1.5 EV
- Can be mixed to give increased film speed.

Chemical hazards

We are often asked how hazardous our photographic chemicals are. The answer is that they are no more hazardous than most domestic solutions you have around the house. If the user, or anyone else who handles the products, reads the hazard warnings on the bottle label and takes any precautions recommended, they will come to no harm. There are, of course, all the usual safety points which should be made, and they apply to any chemical - not just the photographic variety.

Material Safety Data sheets for all our chemicals are available on request.

- Do not eat or smoke in areas where chemicals are being mixed or used
- Do not use empty drinks bottles to store working strength solutions
- Label clearly any containers used for chemical storage
- Wash any mixing vessels and utensils as soon after use as possible
- Keep the working area clean and mop up any spills as soon as possible. Cover any work surfaces to prevent staining
- Where there is specific advice to wear protective rubber gloves, take the advice. Wash the gloves in soap and water before removing them from your hands
- Keep all chemicals out of reach of children
- Do not allow chemicals to come into contact with eyes. If by accident this occurs, rinse the eyes with plenty of water and seek medical advice.

paterson

black-and-white film developers

To-days photographer is faced with a wide choice of black and white films from high definition traditional emulsions through to high speed tabular grain films.

Paterson film developers are designed to optimise, one or more of a particular films characteristics by the choice of the developer. Whether the requirement is for highest definition, greatest possible tonal range, fineness of grain or control of contrast, there is a suitable Paterson negative developer.

It is very important that careful consideration is given to film developer choice if optimum quality prints are to be made from your negatives.



Paterson FX-39 high definition developer

This is a one shot high definition developer designed to allow a new standard of sharpness and definition to be reached. It has been designed to exploit the properties of films using advanced silver halide grain technology such as those in the Paterson Acupan, Kodak T-Max, Ilford Delta, Agfa APX and Fuji ranges.

As the development times of many traditional films are short compared to these emulsions, FX-39 can be diluted to 1+14 or even higher for convenience, accuracy and great economy without any loss of quality. Calculating the new time could not be easier - just multiply the 1+9 time by 1.5x. At 1+19 diluted (2x normal development time) FX-39 gives a valuable compensating effect with extra shadow detail and the ability to cope with high contrast subjects.

Formulated to give optimum results with tabular grain films;
Gives the film manufacturer's full speed rating;
Doubling of the ISO setting possible with extended development;
Also well suited to conventional grain films up to ISO 200.

Size	Code
500ml	PAC110

see also: Auffix, Acustop, Acuwet, Acupan 200.

Paterson Acutol

Acutol is a medium fine grain, high acutance developer. Acutance is the term used to describe sharpness of the image - particularly the edges of fine detail. The 'edge effect' of Acutol is most marked on slow, fine, conventional grain films up to ISO 125. As these are usually of high contrast, the compensating effect available with Acutol is also beneficial.

Normal dilution is 1+9 which gives only slight compensation, 1+14 and 1+19 dilutions give the opportunity to select a degree of compensation to suit the film and subject. Very high contrast films such as Kodak Technical Pan can be used for full tonal range subjects by developing at 1+19.

Medium grain, high acutance developer;
Gives a speed increase of 2/3 of an f-stop or EV;
Choice of dilutions for controlling negative contrast.

Size	Code
500ml	PAC100
1000ml	PAC102

see also: Acufix, Acustop, Acuwet

Paterson Aculux 2

Can be used for all b/w films, regardless of speed or grain group. It is a one shot, fine grain developer, formulated to give a compact grain structure, superb tonal gradation and maximum highlight and shadow detail. When used with modern hi-tech films such as Paterson Acupan 200 it will produce exceptional, almost grain free negatives.

With films in the medium speed group, Aculux 2 produces very fine grain and long tonal range negatives capable of a high enlargement.

With modern fast films such as Acupan 800, Aculux 2 keeps grain to an absolute minimum but still provides a wide tonal range.

New formulation, gives a more compact grain structure with improved highlight and shadow detail;
Almost grain-free negatives with slow, fine-grain films;
Gives film speed increase of 1/3 of an f-stop.

Size	Code
500ml	PAC105
1000ml	PAC106

see also: Acufix, Acustop, Acuwet, Acupan 200

Paterson FX-50 (Single or two bath film developer)

FX 50 is a new type of developer, which produces negatives with the fine grain and tonal qualities of Aculux together with the definition normally associated with acetate developers such as FX 39. ECO friendly it contains no hydroquinone or metol and in concentrate form has a virtually indefinite shelf life.

In use its two concentrates can be mixed with water to form a one shot single solution, which offers a choice of fineness of grain plus sharpness of maximum film speed, dependant upon the ratio of parts A and B included in the mix.

Alternatively parts A and B can be used separately in a two-bath development technique offering maximum compensation for high contrast or over exposure.

500 ml pack makes 3.75lt of working strength solution to develop 12 Films

Size	Code
500ml	PAC114

Paterson Universal

Universal developer is suitable for both films and papers and can be very economical for beginners or those on a budget.

Negatives developed in Universal will be crisp in detail, bright in contrast and with low fog level. They print easily to show a wide range of tones with a neutral image colour. At 1+4 dilution it is also useful as a high contrast developer for copying or other special darkroom effects on film or paper.

Suitable for films or papers; Ideal as a high contrast developer for special effects.

Size	Code
500ml	PAC118
1000ml	PAC119

see also: Acufix, Acustop, Acuwet

Paterson Acuprint

Acuprint is designed for all black-and-white enlarging papers on fibre or on resin coated base materials and for multi-contrast papers.

It gives a superlative range of tones from bright highlights through to rich shadow detail and a dense maximum black. By retaining pure whiteness of the paper base it ensures a clean, sparkling image and avoids image staining.

Image appearance time is short, typically between 10 and 20 seconds, after which it builds up steadily and evenly.

The capacity of Acuprint is exceptional, allowing at least 80 average-density 10 x 8 prints to be developed in 1 litre of working solution with no change in image quality.

Ideal for all multi-contrast, PE or fibre based papers; Metol free, avoids the dangers for some allergic users; Exceptional capacity, around 80 10x8 prints per litre working solution; Steady and even image build-up; Gives bright highlights, rich shadow detail and a dense maximum black.

Size	Code
500ml	PAC125

see also: Acufix, Acustop, Acuwet

Paterson Acugrade

Modern variable contrast papers are characterised by their high printing speed and short development times. Acugrade developer has been especially formulated to exploit both of these features whilst generating high maximum density and providing better separation of shadow detail at any grade setting than other developers. The good rich blacks, truly neutral well defined middle tones and clean sparkling whites which Acugrade generates on the best of the variable contrast papers makes this the ideal standard print developer for today's materials.

Produces good rich blacks, neutral mid-tones and clean sparkling whites; At 20°C the image appears at 5 to 10 seconds, full development at 45 to 60 seconds; Also suitable for fibre based papers.

Size	Code
500ml	PAC130
1000ml	PAC131

see also: Acufix, Acustop

paterson

black-and-white toners and auxiliaries

Toning is undertaken for either aesthetic or archival effect. For aesthetically pleasing results all the toners listed can be used either individually or in combination to produce a wide range of pleasing effects. Archival toning is carried out usually using selenium toner although sepia toning properly carried out also prolongs the life of the print.



Paterson Acutone Sepia

Paterson Acutone Sepia allows the user the choice of the exact shade of sepia that best suits the picture. This is achieved by means of an additive which, when combined in various proportions with the toner solution, can produce the whole range of sepia from warm, almost yellow to a cold, true dark sepia brown. As with all of the Acutone range, combining toners is possible for "split toning" techniques. For instance gold toning a previously sepia toned print will result in an unusual "peachy" red. Acutone Sepia is specially formulated to avoid the unpleasant odour often associated with sulphide sepia toning.

Specially formulated to avoid unpleasant odours; Bleaching usually complete within 3 minutes; Both solutions may be stored and used repeatedly.

Size	Code
2L kit	PAC486

see also: Paterson Acugrade VC Paper

Paterson Acutone Red

Acutone Red gives the print an overall tone ranging from a warm black, through purple to red. The finished shade of red is adjustable by the length of time in toner - the longer it is immersed the lighter the image. Red toning is very effective when used with a warm tone paper and usually requires a darker than normal original print.

Gives user choice of depth of tone; Can be combined with other toners for "split-toning" techniques.

Size	Code
2L kit	PAC488

see also: Paterson Acugrade VC Paper

Paterson Acutone Selenium

Acutone Selenium is a single, re-usable solution that works without first having to bleach the image. It gives a warm purple black, similar to Acutone Red but with additional archival properties. As with all of the Acutone range, combining this with other toners is possible for "split-toning" techniques.

Used for when archival permanence is required; Can be combined with other toners for "split-toning" techniques.

Size	Code
1.25L kit	PAC493

see also: Paterson Acugrade VC Paper

Paterson Acutone Blue

With Acutone Blue the shade of blue increases in depth the longer the immersion time in toner. Blue toning gives a bright and attractive finish on all types of paper and slightly increases the image contrast which can be offset when the original print is made. The blue tone gradually washes out therefore final wash is usually only continued until the white borders clear to the normal paper base white.

Gives user choice of depth of tone; Can be combined with other toners for "split-toning" techniques.

Size	Code
250ml	PAC487

see also: Paterson Acugrade VC Paper



Paterson Acufix

Acufix is a rapid acting fixer for all films and papers which is diluted at 1+3. It is exceptionally resistant to carry over of developer, although a bath of Acustop after development is to be recommended with any fixer. Acufix does not use a hardening agent and this keeps wash times to a minimum. Instead, an anti-swell agent in Acufix helps to prevent film or print emulsions softening excessively.

Suitable for all black-and-white films and papers; 1+7 economy dilution if the short fixing times are not important; Around 70 8x10 prints can be treated in 1 litre of working solution.

Size	Code
500ml	PAC140
1000ml	PAC141

see also: Acustop

Paterson Acuwet

When added to the final rinse, Paterson Acuwet ensures rapid drying of films by lowering the surface tension of water. At the same time the anti-static agent inhibits the collection of dust during and after drying.

Very economical - 1 drop per 25ml of final wash water; One-shot, just use and discard; Anti-static additive helps prevent dust attraction.

Size	Code
500ml	PAC150

see also: Black-and-white developers

Paterson Acustop

Allows a precise end to development when short times are in use; Helps extend the life of fixer by preventing developer carry-over; Contains an indicator that shows when working solution is exhausted.

Size	Code
500ml	PAC146
1000ml	PAC147

see also: Acufix

Paterson Proclens - New Size

Keeping photographic and optical equipment scrupulously clean is the only way to ensure that it returns maximum performance. Fingerprints on a filter or lens are tricky to remove safely and while using a blower brush is one way to remove dust, it seems to be back almost as soon as it has gone. Proclens is an unique new advanced system for cleaning and protecting all photographic and optical equipment. After first ensuring the surface is free from any large particles of dirt, spray the cleaner onto a clean, soft cloth. The cloth is then carefully wiped over the lens or camera surface, removing any dirt and dust and restoring the finish to as good as new. Regular use on lenses, filters, camera bodies, binoculars, microscopes etc. will not only remove surface dirt but gradually builds up an anti-static layer to help prevent dust attraction.

Protects and cleans all photographic and optical equipment; Does not contain any alcohol or solvents; Safe on all lens and camera surfaces; Regular use builds up an anti-static layer; Nontoxic formula.

Code
PAC476

paterson

black-and-white film, papers and chemicals

Acupan 200 Black-and-White Film

General description: Acupan 200 is a high definition, 35mm black-and-white panchromatic film manufactured using the very latest in high-tech emulsions. It has good exposure latitude which, when coupled with the relevant Paterson developer, will return the highest quality, fine grain negatives making it ideal for general purpose, portrait and pictorial photography. Available in 36+2 exposure 35mm cassettes with DX coding.

Exposure: Acupan 200 has good under exposure and wide overexposure latitude, but for optimum results it should be exposed at the indicated film speed and processed in one of the recommended Paterson black-and-white developers. When processing in developers from other manufacturers the film speed should be taken as a guide only and may require some adjustment depending on that developer's characteristics.

Processing for the highest definition: Paterson FX 39 High Definition Developer should be used where ultimate sharpness and pictorial qualities are required. FX 39 offers the added bonus of a half f-stop speed increase, enhancing detail in the shadow areas, and is recommended as the standard developer.

Processing for the finest grain: Paterson Aculux 2 should be used when the very finest grain with excellent tonal qualities are the priorities, for instance if very big enlargements are to be made.

Fixing: The developed film should be fixed in Paterson Acufix for 1 to 3 minutes, depending on the freshness of the working solution. Use Paterson Acustop to extend the life of the fix.

Code
Acupan 200(36+2)
PAC700



Phototec 100 Black-and-White Film

Phototec 100 is a conventional grain, panchromatic black-and-white negative film. It offers high resolving power coupled with fine grain and wide exposure latitude. Phototec 100 offers the budget conscious photographer a quality film, suitable for general purpose, portrait and pictorial photography. Highly recommended for use by students seeking a quality result coupled with low cost. Available in 36+2 exposure 35mm cassettes with DX coding.

Code
Phototec 100(36+2)
PAC721

see also: Phototec 400

Phototec 400 Black-and-White Film

Phototec 400 is a conventional grain, panchromatic black-and white negative film suitable for use in unfavourable lighting conditions or when the use of higher shutter speeds is desirable. The film has good resolving power and low granularity for a film of this type and speed, particularly when processed in the recommended developers. Phototec 400 offers the budget conscious photographer a highly adaptable film suitable for use over a wide range of photography. Its versatility and budget price makes it highly suitable for use by students on photographic and allied courses. Available in 36+2 exposure cassettes with DX coding.

Code
Phototec 400(36+2)
PAC723

see also: Phototec 200

Paterson Acugrade Variable Contrast Black-and-White Paper

Paterson Acugrade is a black-and-white variable contrast enlarging paper coated on a medium weight resin coated base. Its contrast can be varied from grade 0 to grade 5 by use of filters. Acugrade has a silver chlorobromide emulsion with a neutral to slightly warm image tone.

Safelight: Acugrade is sensitised to blue and green light and special care should be taken in choosing the correct safelight. The Paterson safelight with VF Dome (PTP762) is recommended but safelights with Kodak OC or Ilford 902 filters can also be used.

Contrast control: Contrast can be varied from extra soft (Grade 0) to extra hard (Grade 5) by use of colour filters. The following are recommended for contrast control.

Standard commercial multi-contrast filter sets; Colour enlarger filter heads; Special multi-contrast enlarger heads.

When using enlargers with colour heads use the following guide to filter values:

Grade	Kodak	Durst	Meopta
0	80Y	60Y	60Y
1	30Y	30Y	30Y
2	10M	10M	10M
3	60M	40M	30M
4	120M	90M	100M
5	200M	130M	180M

Development: Paterson Acugrade developer is recommended for processing Acugrade paper. It gives a superlative range of tones from bright highlights through to rich shadow detail coupled with short processing times. Where longer development times are preferred Paterson Acuprint is recommended, see separate sheet for full instructions.

Fixing and washing: Paterson Acufix or other standard fixing baths should be used. Care should be taken not to use prolonged fixing times particularly when using high speed fixers such as Acufix at 1+3, or loss of highlight detail may result. The use of a stop bath such as Paterson Acustop between developer and fixer is recommended. This stops development uniformly and extends the life of the fixer. Wash processed prints in running water for 2 minutes. When shorter wash times or archival permanence are required use Paterson Acuwash.

Toning: As a chlorobromide paper, Acugrade is particularly suitable for toning.

Glossy

Size	Code
5" x 7"	PAC710
10" x 8"	PAC712
10" x 8"	PAC714
16" x 12"	PAC716
16" x 12"	PAC717

see also: Acugrade Developer, Acutone Range



Acugrade Pearl Surface

Paterson Acugrade Variable Contrast Paper - Pearl Surface

Originally launched as a resin coated, variable contrast printing paper with a standard glossy surface, by popular demand Acugrade is now available with a lustre surface which has a much softer reflective qualities, making it more suitable for certain subjects. Acugrade Pearl has a neutral to slightly warm image tone and consists of a silver chlorobromide emulsion coated onto a medium weight resin coated base. The contrast can be varied from grade 0 to grade 5 by use of Paterson Variable Contrast Printing Filters. For the ultimate quality, Paterson Acugrade developer is recommended for processing Acugrade paper. This will give a superlative tonal range from bright highlights through to rich shadow detail, coupled with short processing times. Where longer development times are preferred Paterson Acuprint is recommended.

Variable contrast printing paper with a matt surface; Chlorobromide paper giving slightly warm image tone; A Paterson Safelight with VF Dome (PTP762) is recommended, but those with Kodak OC or Ilford 902 filters may also be used; Particularly suitable for toning using the Paterson Acutone range.

Size	Code
5" x 7"	PAC730
10" x 8"	PAC732
10" x 8"	PAC734
16" x 12"	PAC736
16" x 12"	PAC737

see also: Paterson Acugrade Developer, Paterson Safelight with VF Dome, Acutone Range



Acugrade Glossy Surface



Acugrade Warm Tone

Paterson Acugrade Warmtone Variable Contrast Paper

This warm tone version of the popular Acugrade Variable Contrast paper. Unlike other so-called warm tone papers that use an off-white base to achieve the effect, this new paper is made with a warm emulsion coated onto a pure white paper base. This method ensures only the exposed areas are "warm" leaving unexposed areas and the print borders, pure white.

The actual warmth of the image will depend on the developer used. Paterson Acugrade paper developer is recommended.

Size	Code
10" x 8"	PAC742
16" x 12"	PAC746

paterson

colour chemicals



Photocolor Chrome Six (for E6 side film)

New easy to mix 3 bath formulation, giving well saturated colours neutral blacks and clear sparkling highlights. Suitable for all current E6 films. All kits are now complete with bleach fix and stabiliser.

Process time 30 minutes at 38°C. Processing possible over wide temperature range. Suitable for both machine and manual processing techniques.

Size	Code
600ml kit	PCC065
1200ml kit	PCC066
5ltr	PCC067

Photocolor 11 (for C41 negative film)

A single concentrate C41 film developer. For working strength solution, one part of the concentrate is mixed with two parts of water (eg to make 300ml take 100ml of concentrate with 200ml of water). The developer produces superb, 'in control' easy to print negatives. Use with Photocolor Universal Bleach fix.

Size	Code
500ml	PCC060
1000ml	PCC061

Photocolor 11 Press Kit

Ideal when small quantities of C41 film need to be processed. Consists of one 250ml bottle of Photocolor II developer and one 250ml bottle of Universal Bleach fix. Makes 750ml of working strength solution.

Size	Code
250ml	PCC062

Photocolor Universal Bleach-Fix

For use with both Photocolor II and Printmaster chemistry it is mixed at the ratio of 1+2 for C41 Films and 1+4 For RA4 papers.

Easy to mix single part Bleach-Fix for both C41 film and RA4 paper.

Size	Code
500ml	PCC180
1000ml	PCC181
2000ml	PCC182

Printmaster RA starter

For use with the initial mix of Printmaster RA developer when it is to be used in a tank or roller transport processor or, when Printmaster RA is to be used at above room temperature.

Size	Code
500ml	PCC175

Printmaster RA (Universal temperature) (Developer/Replenisher)

A unique single liquid developer that can either be mixed with five parts of water to one of concentrate to make an excellent Room Temperature developer. Alternatively it can be mixed at 1+9 to make an excellent and economic developer for use at 35C in both drum and machine processors (Printmaster starter required). The developer can be fully replenished by mixing 75ml of concentrate with 425ml of water for every 500ml of replenisher required.

Simple to use can be used in tray, drum or machine at either room temperature or above. Fully replenishable.

Size	Code
500ml	PCC170
1000ml	PCC171

Paterson Film Developers

The times given below will produce negatives of standard enlarging quality. They may be adjusted to suit your own enlarging equipment. 35mm users should begin at the lower time (Gamma=0.57) and roll film users at the higher (Gamma=0.7) when two figures are quoted. Film speed is not affected when using times within the range.

Agitation during development should be standardised by following the recommendations in the individual instructions with each of the developers.

Film	Aculux 2			Acutol			FX-39			Universal		FX50
	G=0.57	G=0.7		G=0.57	G=0.7		G=0.57	G=0.7		1 + 19	1 + 29	
Acupan 200	6	7.5	8	3.5	4.5	5	5	6	7	NR	4.5	7
Acupan 800	12	14	15	NR	NR	NR	10	12	14	6	8	14
Agfapan APX 25	7	8	8.5	6	7	8	5.5	7	9	3	4.5	7.5
Agfapan APX 100	8	9.5	10.5	8	10	10.5	7.5	10	12	4	6	9
Agfapan APX 400	9	11	12	10	12	13	11	13	15	5	7.5	11
Fuji Neopan 400	12	15	17	8.5	10	11.5	10	12	14	6	NR	15
Fuji Neopan 1600	12	14	15	NR	NR	NR	5.5	7	8	NR	NR	13
Iford Pan F Plus	5.5	6	7	5.5	6	6.5	4.5	5.5	6.5	2.5	3.75	6
Iford FP4 Plus	6.5	7.5	9	6	7	8	5.5	7.5	8.5	3.5	5.25	7.5
Iford 100 Delta pro	8	9	11	8	10	11	7	9	11	3	4.5	8.5
Iford 400 Delta pro	9	11	12.5	9	11	12	10	12	13	4.5	7.5	11
Iford HP5 Plus	11	13	14.5	8	10	10.5	9	11	12	4.5	7.5	13
Iford SFX	11	13	15	9	11	12	5.5	6.5	7.5	4.5	8	13
Jessop Pan 100	8	9	11	10	13	15	6	7.5	8.5	5	7.5	9
Jessop Pan 400	10	13	15	NR	NR	NR	10	12	14	6.5	8.5	11
Kodak Plus X pro	6	7	8	7	9	9.5	6.5	8	9	3.5	5.25	7
Kodak Tri-X pan	9	11	12	9	11	12	8	10	11	5.5	NR	11
Kodak T-max 100	9	9	NR	8.5	10	12	8	9	10	NR	5.25	12
Kodak T-max 400	12	13	14.5	9.5	11	12	10	12	13	NR	8	13
Kodak T-max 3200	14	16	18	NR	NR	NR	12.5	14	16	NR	NR	16
Kodak H/S Infra-red	12	14	15	10	12	13	11	13	15	7	9	13
Kodak Tech Pan	NR	NR	NR	NR	NR	NR	(1+19)	7	(1+19)	NR	NR	5
Phototec 100	7.5	8.5	9.5	5.5	6.5	7	6	7	8	NR	5	8.5
Phototec 400	11	13	14	NR	NR	NR	11	13	15	NR	7	13

Ilford 3200 Delta

FX-39	El 1600	El 3200	El 6400	El 12500*
1+5 @ 20°C	9	11	13	15
1+9 @ 24°C	9	11	13	15

Ilford 3200 Delta

Aculux 2	El 800	El 1600	El 3200	El 6400	El 12500*
1+5 @ 20°C	9	11	13	15	18*
1+9 @ 24°C	9	11	13	15	18*

* WARNING! Due to the characteristics of this film, please test first under own conditions.

VARISPEED: the times shown give standard film speed. Instructions enclosed with the developer give times to both Push and Pull the EI ratings of films.

UNITOL: this developer can also be used at dilutions of 1+5 and 1+9 where appropriate. See instructions for full details.

Paterson black-and-white Film Developers

The dilution is 1+9 for each developer. All developers are one shot, liquid concentrates.

Required Characteristic	FX-39	Aculux 2	Acutol	FX-50
Finest possible grain	-	P	-	P
Ultimate sharpness	P*	-	P with conventional films	P
Good Pictorial	P*	P	P	P
Best possible tonal range	P	P	P	P
Maximum shadow/highlight detail	P*	P	P	P
Film speed adjustment	P** (slight)	-	-	P
General purpose fine grain developer	P*	-	P	P
Designed for advance technology films	P	P	-	P
High contrast films/subjects	-	-	P dilution change required	P

Paterson Universal is also suitable for use as an economical film developer and can be used to process most black-and-white films, particularly when a high grain effect is required. At 1+4 it is also useful as a high contrast developer for special effects or copy work.

* with advanced technology films; ** without excessive contrast build-up normally associated with "pushing" films.