

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.

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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 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
Ilford Pan F Plus	5.5	6	7	5.5	6	6.5	4.5	5.5	6.5	2.5	3.75	6
Ilford FP4 Plus	6.5	7.5	9	6	7	8	5.5	7.5	8.5	3.5	5.25	7.5
Ilford 100 Delta pro	8	9	11	8	10	11	7	9	11	3	4.5	8.5
Ilford 400 Delta pro	9	11	12.5	9	11	12	10	12	13	4.5	7.5	11
Ilford HP5 Plus	11	13	14.5	8	10	10.5	9	11	12	4.5	7.5	13
Ilford 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	EI 1600	EI 3200	EI 6400	EI 12500*
1+5 @ 20°C	9	11	13	15
1+9 @ 24°C	9	11	13	15

Ilford 3200 Delta

Aculux 2	EI 800	EI 1600	EI 3200	EI 6400	EI 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	-		-	
Ultimate sharpness	*	-	with conventional films	
Good Pictorial	*			
Best possible tonal range				
Maximum shadow/highlight detail	*			
Film speed adjustment	** (slight)	-	-	
General purpose fine grain developer	*	-		
Designed for advance technology films			-	
High contrast films/subjects	-	-	dilution change required	

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.**