PATERSON COLOUR PAPER

(Pavelle P-200 Process)

Instructions for use

General

Paterson Colour paper is designed for the rapid and simple production of prints and enlargements in natural colours. It consists basically of three emulsion layers. The bottom layer is red sensitive and on exposure produces a cyan dye image, the middle layer is green sensitive and produces a magenta image, the top layer is blue sensitive and produces a yellow image. It is intended for making colour prints either by the additive (red plus blue plus green successive exposures) or subtractive (corrected white light) method of printing.

It is not a reversal material, and is designed for making prints and enlargements from all masked or unmasked colour negatives.

Safelight

A special Paterson Safelight screen must be used and this can be fitted to any standard 7″ x 5″ safelight lamp. The safe distance using a 25 watt pearl lamp is 5ft. Avoid exposing the paper to the direct rays of the safelight more than necessary.

Storage

Paterson colour paper should be stored at a temperature not higher than average room temperature (68°F, 20°C). Avoid storing the paper under damp conditions.

Processing

Process in Paterson Colour Chemicals (Pavelle P-200 process) in accordance with the following table:

Step	Time minutes	Temperature F.	Temperature C.	Agitation
Develop	4-5	65-70°	18-21°	Regular agitation required. Should be standardised according to the worker's normal procedure.
	or 2-3	72-80°	22-26°	
	or 1½-2	82-88°	27-31°	
Stop-Bath	1	65-88°	18-31°	Occasional
Bleach-Fix	2	65-88°	18-31°	Occasional
Wash	15	65° (or higher)	18°	Running water
	or 25	64° (or lower)	17°	

Where higher contrast is required the longer developing time should be chosen.

Always use same developing time and temperature for all tests and final prints.

The success of colour printing depends on standardising working conditions. Select convenient time and temperature, but then keep to it.

Drying, Glazing and Storage

The prints can either be air dried or by the application of slight heat not exceeding 120°F (49°C.) A good method is to blot the prints LIGHTLY on photographic blotting paper to remove surplus moisture and then lay them face upwards on the blotting paper to dry. If glazed prints are desired, first dry normally, then re-wet for 30 seconds in diluted wetting agent or glazing solution and squeegee on to the glazing plate, but use no heat. If it is required to dry, glaze or mount the prints using heat, the prints can be given extra hardening by immersing for 30 seconds in a 10% formalin solution followed by a wash in running water for 2 minutes.

It is good practice to mount colour prints in an album to protect them from light and damage. Any good quality (non-acid) mounting paste or rubber mountant may be used.

Dry mounting requires care and should not be attempted except after preliminary test. The print must be perfectly dry, the temperature of the press or iron not higher than 170°F (76°C.) and the heat should be applied only for the minimum time. Paterson Thermal Print Mountant is particularly recommended as it allows the use of an ordinary domestic electric iron at lower temperatures than are required for dry mounting tissue.

Because the dyes used in colour photographic materials, like other dyes, may change in time, Paterson Colour paper is not warranted against any change of colour. Care should be taken not to expose colour prints to strong daylight for long periods, and excessive heat or moisture should be avoided. Ideally, colour prints should be stored in the dark, i.e. in an album or box.

Exposure Ratings

Due to the variations of colour balance and overall speed which may occur between batches of colour

paper during manufacture, two sets of ratings are ascribed to each pack of Colour Paper so that when changing batches repeat prints may be made with the minimum of trouble.

These ratings have been obtained in our laboratories under a particular set of strictly controlled conditions and should not, with other equipment, processing conditions etc., be expected to give matching prints when changing batches. The values given, for this reason, are only intended as a guide.

The arithmetical set of values should only be employed for calculating a new set of exposure times when printing by the additive tricolour method, the following equation being applied for the exposures through each of the three filters.

$$\text{Exposure time with new batch} = \text{Old exposure time} \times \frac{\text{New paper rating}}{\text{Old paper rating}}$$

e.g. for a print requiring 18, 30, 24 seconds exposure respectively through red, green and blue filters with a batch of paper rated 90R, 110G, 80B.

On changing to a new batch rated 100R, 80G, 100B, the new exposures will be·

$$\text{R} \quad 18 \times \frac{100}{90} = 20 \text{ seconds}$$

$$\text{G} \quad 30 \times \frac{80}{110} = 22 \text{ seconds}$$

$$\text{B} \quad 24 \times \frac{100}{80} = 30 \text{ seconds}$$

The other set of figures, consisting of filter corrections (in yellow, cyan or magenta) and a speed rating is intended for those who wish to employ the corrected white light method of printing. The determination of the new filter pack and exposure requires a few simple calculations as follows:

$$\text{New filter pack} = \text{filter pack in use} + \text{new filter correction} - \text{Old filter correction}$$

$$\text{Exposure time with new batch} = \text{original exposure time} \times \frac{\text{New speed rating}}{\text{Old speed rating}}$$

In order to demonstrate how simple the calculations are, let us take as an example the change from a batch of paper rated

$-10Y \quad -15C \quad$ Speed 112

to a new batch

$-20C \quad +10M \quad$ Speed 96

If a satisfactory print on the original batch of paper was obtained with a 30Y 20C filter pack and an exposure time of 25 seconds, then the new filter pack and exposure is calculated as below.

A. New Filter Pack

(filter pack in use) + (new correction) − (old-correction)
(30Y+20C) + (−20C+10M) − (−10Y−15C)

or

	Y	C	M
Filter pack in use	30	20	0
New correction*	0	−20	10
Old correction*	10	15	0
Total	40Y	15C	10M

* Remember the simple mathematical ruling that minus multiplied by minus gives a positive value, and minus by plus gives a negative value.

We next subtract the grey component from this total (viz. 10Y+10C+10M) giving a filter pack 30Y plus 5C.

B. New Exposure

The new exposure will be

$$25 \times \frac{96}{112} = 21.43 = 21\tfrac{1}{2} \text{ seconds}$$

Note that exposure factors for the filters do not enter into the calculation.

Should one of the values in our total above be negative, then we should have **added** to this total a neutral value (i.e. equal value filters Y+C−M) sufficient to make the negative filtration equal to zero.
e.g.

	+40Y	+15C	−10M
add 10 units neutral	+10Y	+10C	+10M
	50Y	**25C**	**0**

If everything is tabulated as above, then you should have no problem in obtaining your new filter pack values and exposure time.