

## FACT SHEET

# FP4 *Plus*

## FINE GRAIN, BLACK AND WHITE NEGATIVE MOTION PICTURE FILM

ILFORD FP4 Plus negative motion picture film is an exceptionally fine grain, medium speed, panchromatic black and white film. It is ideal for high quality studio and outdoor motion picture photography.

FP4 Plus negative motion picture film is coated on 0.125mm/5mil acetate base and is manufactured in both 35mm and 16mm formats. Film is available in lengths typical of those required for motion picture work with the film wound on the appropriate core or daylight loading spool.

FP4 Plus negative motion picture film is manufactured to short pitch perforation standards according to ISO491:1995 (35mm) and ISO69:1990 (16mm). The 35mm format has double negative (B&H) perforations and the 16mm format is available as both double perforated and single perforated (Super 16).

### EXPOSURE RATING

FP4 Plus negative motion picture film has a speed rating of EI 125/22 to daylight and EI 100/21 to tungsten light (3200K). This is for development to a gamma of 0.65–0.70.

It should be noted that the exposure index (EI) recommended for FP4 Plus negative motion picture film is based on a practical evaluation of film speed and is not based on foot speed, as is the ISO standard.

### Exposure table for tungsten light

At 24 frames per second, 170° shutter opening.

Lens aperture	f1.4	f2	f2.8	f4	f5.6	f8	f11
Foot-candles required	30	60	120	240	480	960	1920

### USE OF FILTERS

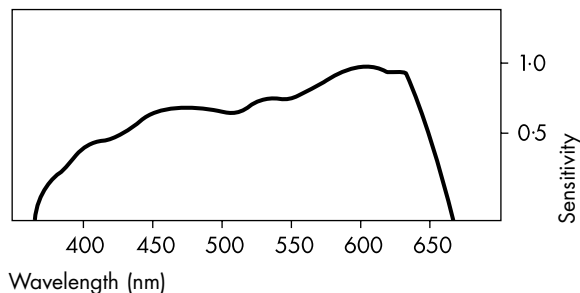
FP4 Plus negative motion picture film may be used with all types of filters (eg colour, polarising and neutral density) in the usual way. Follow the instructions given by the filter manufacturer. As a guide, the following filter factors in daylight apply.

### Filter factors

Filter	Filter colour	Filter factor	Exposure increase (stops)
Kodak Wratten			
3	Very light yellow	1 1/2	2/3
8	Yellow	2	1
12	Deep yellow	2	1
15	Very deep yellow	2	1
21	Orange	3	1 2/3
23a	Reddish orange	3	1 2/3
25	Red	6	2 2/3
29	Deep red	10	3 1/3

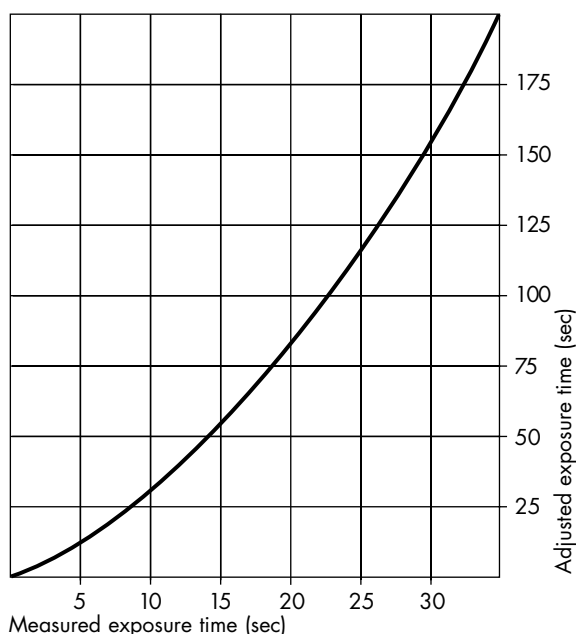
### SPECTRAL SENSITIVITY

#### Wedge spectrogram to tungsten light (2850K)



### MAKING LONG EXPOSURES

For exposures between  $\frac{1}{2}$  and  $\frac{1}{10\,000}$  second, no corrections are needed for reciprocity law failure. When exposures longer than  $\frac{1}{2}$  second are given FP4 Plus negative motion picture film, along with other films, needs to be given more exposure than indicated by a meter. Use the graph to calculate the increased exposure time which should be given once the measured time is known.



### PROCESSING

FP4 Plus negative motion picture film is compatible with all major processing systems and will give excellent results in the industry standard developer, Kodak D-96. The following development times (to a control gamma within the range of 0.65–0.70) are given as a guide and may be altered if a different result is needed.

#### Development times - Kodak D-96

Temperature °C/°F	Development time (min:sec)
24/75	5:30
23/73	6
22/71	6:30
21/70	7:15
20/68	8

FP4 Plus negative motion picture film will also give excellent results in the range of ILFORD developers, including ID-11, ILFOTEC DD and ILFOTEC RT RAPID. Use the same development times and processing conditions as recommended for FP4 Plus still camera film. Some sample development times are given in the following table.

ILFORD developer	Temperature °C/°F	Development time (min:sec)
ID-11 (stock)	20/68	8:30
ILFOTEC DD (1+4)	24/75	8:30
ILFOTEC RT RAPID (1+1+2)	26/79	0:45

For best results, the addition of hardener to the fixing bath is recommended when machine processing. ILFORD HYPAM fixer with ILFORD HYPAM HARDENER are recommended.

### GRANULARITY

FP4 Plus negative motion picture film, developed in Kodak D-96 developer for 5½ minutes at 24°C/75°F, has a diffuse rms granularity of 10.

### SAFELIGHT RECOMMENDATIONS

Handle FP4 Plus negative motion picture film in total darkness. For very brief inspections during processing, use the ILFORD 908 or Kodak No.3 (very dark green) safelight filters, with a 15W bulb, fitted in a darkroom lamp. Do not allow direct lighting from the safelight to fall on the film.

### EDGE SIGNING

For details of key coded 35mm film please see the separate key code fact sheet. Non key coded 16mm FP4 Plus negative motion picture film is signed along one edge, at 30cm/12in intervals, with an advancing footage number. For example: AB2 C76024, AB2 C76025, AB2 C76026 etc.

The first letter identifies the emulsion type. For FP4 Plus, this is A, B or C. The first number identifies the machine used for signing.

The second and third letters increase the range of signing without repetition. They are changed in the sequence AA, AB, AC and so on to AJ, and then BA, BB, BC etc up to JJ.

Between the footage numbers the film is also signed with 'ILFORD SAFETY FILM'.

### CAMERA MAINTENANCE

All black and white motion picture films are more prone to leaving debris than colour films. For this reason, check and clean the camera gate on a regular basis.

### STORAGE

Store unexposed film in a cool (10–20°C/50–68°F), dry place in its original packaging. Once exposed, process FP4 Plus negative motion picture film as soon as practical. Store processed negatives in a cool (10–20°C/50–68°F) dry place, in the dark.

Some products in this fact sheet might not be available in your country.