

FACT SHEET

PAN F *Plus*

ISO 50/18° BLACK AND WHITE PROFESSIONAL FILM FOR HIGH PRINT QUALITY AND FLEXIBILITY IN USE

ILFORD PAN F Plus is an extremely fine grain black and white film. It has outstanding resolution, sharpness and edge contrast. These characteristics make it the natural choice where fine detail and lack of grain are more important than film speed. Mural size enlargements from PAN F Plus negatives show an outstanding range of tone and detail when the film is carefully exposed and processed.

PAN F Plus is compatible with all major processing systems, including those which give the standard short fixing and washing times.

PAN F Plus 35mm film is coated on 0.125mm/5-mil acetate base and is available in 36 exposure cassettes, or in bulk lengths of 17 and 30.5 metres (55 and 100ft). PAN F Plus 35mm film is supplied in DX coded cassettes, suitable for all 35mm cameras.

PAN F Plus rollfilm is coated on 0.110mm/4-mil clear acetate base with an anti-halation backing which clears during development. It is available in 120 lengths and is edge numbered 1 to 19.

EXPOSURE RATING

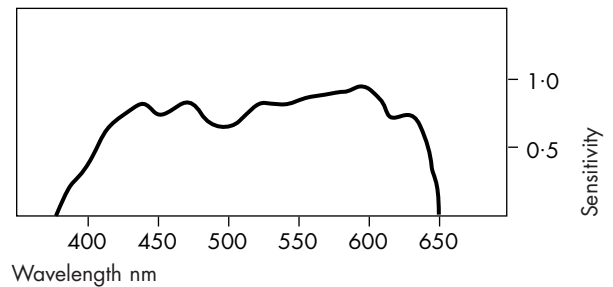
PAN F Plus has a speed rating of ISO 50/18° (50ASA, 18DIN, EI 50/18) to daylight. The ISO speed rating was measured using ILFORD ID-11 developer at 20°C/68°F with intermittent agitation in a spiral tank.

Best results are obtained at EI 50/18, but good image quality will also be obtained when PAN F Plus is exposed at EI 25/15.

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

SPECTRAL SENSITIVITY

Wedge spectrogram to tungsten light (2850K)



FILTER FACTORS

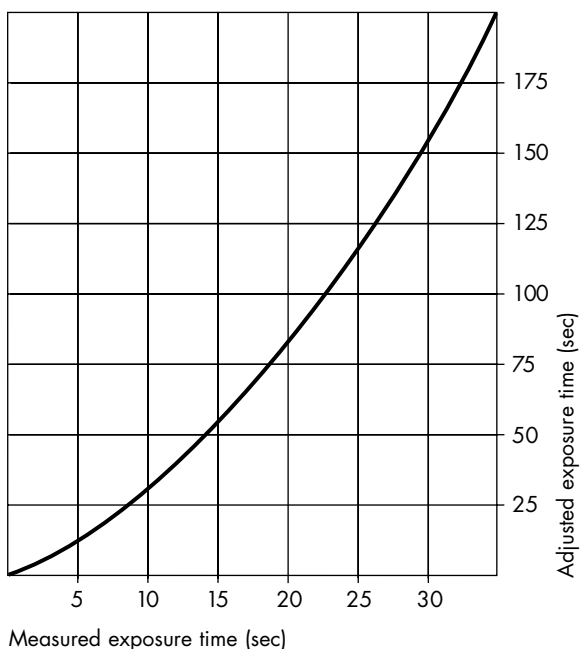
PAN F Plus film may be used with all types of filters (eg colour, polarising and neutral density filters) in the usual way. Follow the instructions given by the filter manufacturer.

The exposure increase in daylight may vary with the angle of the sun and the time of day. In the late afternoon or the winter months, when daylight contains more red light, green and blue filters may need slightly more exposure than usual.

Cameras with through-the-lens metering will usually adjust the exposure automatically when using filters. With some automatic exposure cameras, the correction given for deep red and orange filters can produce negatives under exposed by as much as 1½ stops.

MAKING LONG EXPOSURES

For exposures between 1/2 and 1/10 000 second, no adjustments are needed for reciprocity law failure. When exposures longer than 1/2 second are given, PAN F Plus, 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.



CHOOSING THE BEST ILFORD DEVELOPER FOR THE JOB

Manual processing (eg spiral tank, dish/tray, deep tank) and rotary processors

| | Liquid | Powder |
|----------------------------|---------------------------|--------------------------------|
| Best overall image quality | ILFOTEC DD-X | ID-11 (stock) |
| Finest grain | ILFOTEC DD-X | PERCEPTOL (stock) |
| Maximum sharpness | ILFOTEC DD-X | ID-11 (1+3) |
| One-shot convenience | ILFOSOL S ILFOTEC DD-X | ID-11 (1+1) MICROPHEN (1+1) |
| Economy | ILFOTEC LC29 (1+29) | ID-11 (1+3) MICROPHEN (1+3) |
| Rapid processing | ILFOTEC HC (1+31) | - |
| Replenishable | ILFOTEC HC | ID-11 |

Machine processing

| | | |
|------------------|-----------------------------------|---|
| Dip and dunk | ILFOTEC DD ID-11 ILFOTEC HC | Best overall image quality (liquid) and long tank life Best overall image quality (powder) and long tank life Flexible process time, range of dilutions and economy |
| Short leader | ILFOTEC RT RAPID ILFOTEC HC | Rapid processing, best overall image quality and long tank life Range of dilutions, flexibility and economy |
| Roller transport | ILFOTEC RT RAPID | Rapid processing |

DEVELOPMENT TIMES

The table gives development times for both manual and machine processing PAN F Plus. These times will produce negatives of average contrast suitable for printing in all enlargers. The development times are intended as a guide and may be altered if a different result is needed.

For manual processing in spiral tanks and deep tanks, the development times are based on intermittent agitation. Where continuous agitation is used for manual processing (as in a dish/tray or with some types of developing tank), reduce these times by up to 15%. For use in rotary processors without a pre-rinse, reduce the spiral tank development times by up to 15%. A pre-rinse is not recommended as it can lead to uneven processing.

| 35mm film & Rollfilm | | | |
|---|-----------------|---------------|----------|
| Dilution | | Meter setting | |
| | | EI 25/15 | EI 50/18 |
| Spiral tank, deep tank, dip and dunk machines (min/20°C/68°F) | | | |
| ILFORD developer | | | |
| ILFOTEC DD-X | 1+4 | 7 | 8 |
| ILFOSOL S | 1+9 | – | 4 |
| | 1+14 | – | 6 |
| ILFOTEC HC | 1+31 | – | 4 |
| ILFOTEC LC29 | 1+19 | – | 4 |
| | 1+29 | – | 5½ |
| ID-11 | stock | 6½ | 6½ |
| | 1+1 | 8½ | 8½ |
| | 1+3 | 14 | 15 |
| MICROPHEN | stock | 4½ | 4½ |
| | 1+1 | 6 | 6 |
| | 1+3 | 11 | 11 |
| PERCEPTOL | stock | 9 | 14 |
| | 1+1 | 10½ | 15 |
| | 1+3 | 15 | 17 |
| Non-ILFORD developer | | | |
| Acufine Acufine | stock | – | 3½ |
| Agfa Refinal | stock | – | 5½ |
| Agfa Rodinal | 1+25 | – | 6 |
| | 1+50 | – | 11 |
| Kodak D-76 | stock | 6½ | 6½ |
| | 1+1 | 10½ | 10½ |
| | 1+3 | 15½ | 15½ |
| Kodak HC-110 | B | – | 4 |
| Kodak Microdol-X | stock | 12 | 15 |
| | 1+3 | 15 | 18 |
| Kodak T-Max | 1+4 | – | 4 |
| Paterson Acutol | 1+10 | – | 10½ |
| Tetenal Ultrafin | 1+10 | – | 4 |
| | 1+20 | – | 8 |
| Tetenal Ultrafin Plus | 1+4 | – | 5 |
| Dip and dunk machines (min/24°C/75°F) | | | |
| ILFOTEC DD | 1+4 | 4½ | 5½ |
| Kodak T-Max RS | stock | – | 3 |
| ILFOLAB FP40, roller transport and short leader machines (sec) | | | |
| ILFOTEC RT RAPID | stock/26°C/79°F | – | 50 |
| ILFOTEC HC | 1+11/24°C/75°F | 50 | 65 |
| Kodak Duraflo RT | stock/26°C/79°F | – | 50 |

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

DEVELOPMENT TIMES

If PAN F Plus has been inadvertently exposed at settings below EI 25/15 or above EI 50/18, the following guide will ensure usable negatives are obtained. Obviously, the quality of negatives processed in this way will not be so high as conventionally processed ones.

Manual processing (min/20°C/68°F) - accidental exposure only

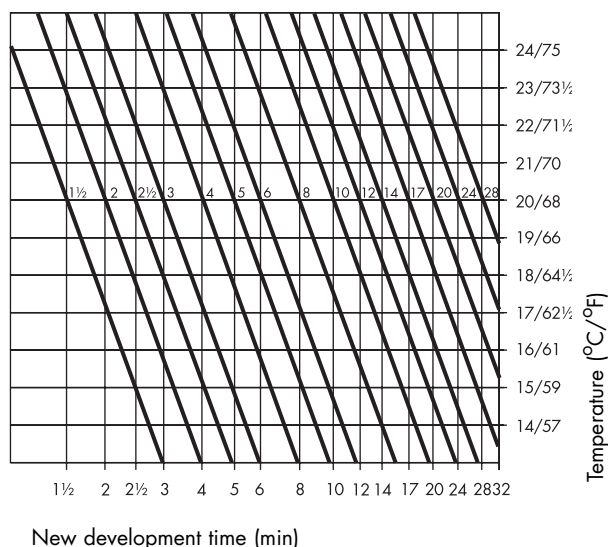
| ILFORD developer | Dilution | Meter setting | | |
|------------------|----------|--------------------|-----------|---------------------|
| | | EI 12/12 and below | EI 100/21 | EI 200/24 and above |
| MICROPHEN stock | - | 8 | 12 | |
| ID-11 stock | 4 | - | - | |

Note Development times may need adjusting to suit individual processing systems and working practices. If an established system is producing good results, adjust the recommended development times until the desired contrast level is obtained. Development times in other manufacturers' developers are included for your convenience, and are only a general guide. Other manufacturers can and do change their product specifications from time to time, and the development times may change as a result.

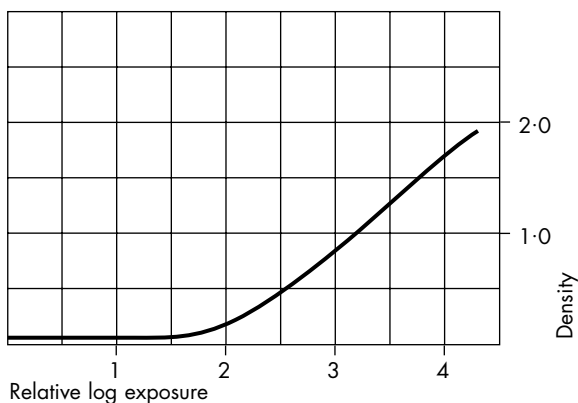
PROCESSING AT DIFFERENT TEMPERATURES

PAN F Plus film can be processed over a range of temperatures. Development times at temperatures other than 20°C/68°F may be calculated from the chart below.

For example, if 4 minutes at 20°C/68°F is recommended, the time at 23°C/73°F will be 3 minutes and the time at 16°C/61°F will be 6 minutes.



CHARACTERISTIC CURVE



PAN F Plus rollfilm developed in ILFORD ILFOTEC HC (1+31) for 4 minutes at 20°C/68°F with intermittent agitation. This curve is also representative of the 35mm film format.

PROCESSING

PAN F Plus can be processed in all types of processing equipment including spiral tanks, rotary processors, dishes/trays, deep tanks and automatic processors. Standard capacity figures and replenishment rates can be maintained. PAN F Plus is very robust in processing and will tolerate less than ideal processing conditions. Also, it will not contaminate the processing chemicals.

Safelight recommendations

Handle PAN F Plus film in total darkness. For very brief inspections during processing, use the ILFORD 908 (very dark green) safelight filter, with a 15W bulb, fitted in a darkroom lamp (such as the ILFORD DL10 or DL20). Do not allow direct lighting from the safelight to fall on the film.

Agitation

Intermittent agitation is recommended for use in spiral tanks and deep tanks. Continuous agitation is recommended in dishes/trays (by rocking the dish or by interleaving the sheets). As a general rule, follow the recommendations given by the processing equipment manufacturer.

Fixation

After development, rinse the film in water or an acid stop bath (ILFORD ILFOSTOP or ILFOSTOP PRO) and fix in ILFORD HYPAM or UNIVERSAL RAPID fixer (1+4) for 2–4 minutes at 20°C/68°F. A hardener is recommended only when processing at high temperatures (above 30°C/86°F) or in a roller transport processor.

Washing

Where a non-hardening fixer, such as HYPAM or UNIVERSAL RAPID, has been used, wash the film in running water for 5–10 minutes at a temperature within 5°C/9°F of the processing temperature.

For spiral tank use, when a non-hardening fixer has been used, the following method of washing is recommended. This method of washing is faster, uses less water yet still gives negatives suitable for long term storage.

- 1 Process the film in a spiral tank.
- 2 Fix it using HYPAM or UNIVERSAL RAPID fixer.
- 3 After fixation, fill the tank with water at the same temperature as the processing solutions, and invert it five times.
- 4 Drain the water away and refill. Invert the tank ten times.
- 5 Drain and refill it for the third time and invert the tank twenty times. Drain the water away.

A final rinse in water to which a few drops of ILFORD ILFOTOL wetting agent have been added will aid rapid and uniform drying.

Drying

To avoid drying marks, use a clean squeegee or chamois cloth to wipe PAN F Plus film before hanging it to dry. Dry PAN F Plus at 30–40°C/86–104°F in a drying cabinet or at room temperature in a clean dust-free area.

STORAGE

Store PAN F Plus in a cool (10–20°C/50–68°F), dry place in its original packaging.

Exposed film

Once exposed, process PAN F Plus as soon as practical. Images on exposed but unprocessed film will not degrade for up to several months when stored as recommended.

Negatives

Store processed negatives in a cool (10–20°C/50–68°F), dry place, in the dark. Suitable storage sleeves include those made of cellulose triacetate, Mylar, paper (pH6.5–7.5) or inert polyester.