TECHNICAL INFORMATION

SFX 200

BLACK AND WHITE CAMERA FILM WITH EXTENDED RED SENSITIVITY FOR CREATIVE PHOTOGRAPHY

ILFORD SFX 200 is a medium speed black and white camera film for creative photography. It has extended red sensitivity (up to 740nm) and is especially suited for use with a red filter to create special effects. For example, by using a very deep red filter, skies can be rendered almost black, and most green vegetation almost white. Its unusual tonal rendition ensures interesting results for a range of subjects, including portraits, landscapes, townscapes and architecture.

Best results are obtained in bright sunshine, or in the studio under tungsten lighting.

SFX also has full panchromatic sensitivity to ensure good pictorial contrast with or without the use of a filter. It has a wide exposure latitude and is compatible with all normal developers. It has a wide tonal range.

AVAILABILITY

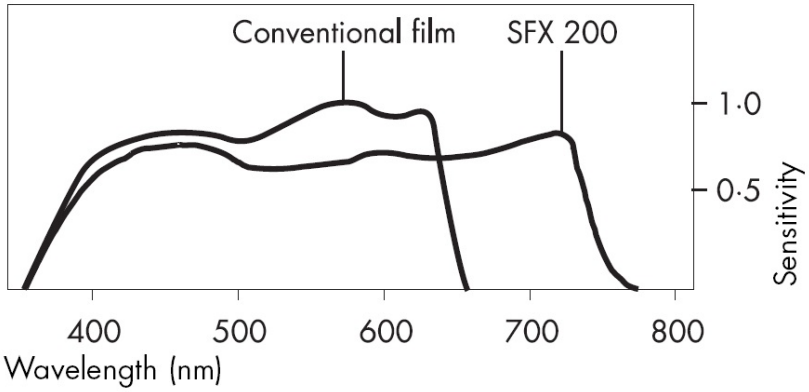
SFX 200 film is coated on 0.125mm/5-mil grey acetate base which gives good halation protections.
SFX 200 is available in 36 exposure DX coded cassettes, suitable for all 35mm cameras.
SFX 200 is also available as120 roll film, edge numbered 1 to 19.

EXPOSURE RATING

SFX 200 has a speed rating of ISO 200/24° 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.
It should be noted that the exposure index (EI) range recommended for SFX 200is 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)



USE OF FILTERS

SFX 200 film can be used with yellow, orange or red filters, but the effect seen will depend on its transmission characteristics. The redder the filter, the more dramatic the effect. With very dark filters, exposure times can be very long, so the use of a tripod is recommended. Below is a guide to filter factors for various filter colours.

Filter Factors

Filter Kodak Wratten (or equivalent)	Filter Colour	Filter Factor	Exposure Increase (Stops)
3	Very Light Yellow	2	1
8	Yellow	2	1 ⅓
12	Deep Yellow	2.3	1 ⅓
15	Very Deep Yellow	2.4	1 ⅓
21	Orange	2.4	1 ⅓
23a	Reddish Orange	2.5	1 ⅓
25	Red	2.8	1 ½
29	Deep Red	3	1 ⅔
89B	Very Deep Red	16	4

LOADING THE CAMERA

SFX 200 must be loaded in subdued light. Unlike true infra-red film, it is not necessary to load it in total darkness.

FOCUSING

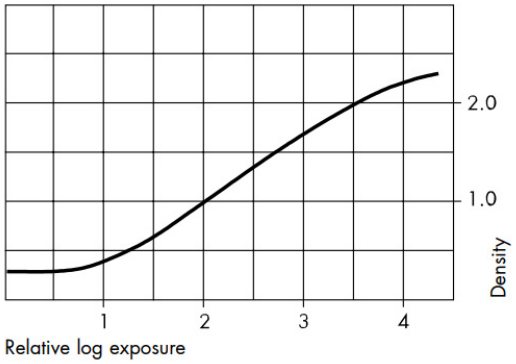
With some lenses, red light focuses at a slightly different point to other visible light. With these lenses, there may be a shift when focusing in white light compared with red light. However, it is almost impossible to focus a camera with a deep red filter in place.
With short to moderate focal length lenses, this difference can easily be accommodated by stopping down to the smallest working aperture. Some lenses, particularly apochromatic (APO) designs, may need no correction.

EXPOSURE

A certain amount of experimentation is needed when first using this film. As a guide, bracket exposures by +/- 2 stops from the TTL reading with the filter in place, or the meter reading with the filter factor applied.

Note The TTL metering on some common cameras can under expose by up to 1 1/2 stops with deep red or orange filters in place.
If you want to check the TTL metering system on your camera before starting, set the metering system of the camera to EI 200/24, and with your filter in place – make a series of exposures up to ± 2 stops from the indicated exposure. After processing, decide which is the best negative and re-set the camera if necessary. As an example, the correct exposure in bright sunlight with a deep red filter is around 1/30th second at f5.6.

CHARACTERISTIC CURVE



SFX 200 film developed in ILFORD ID-11 stock for 10 minutes at 20°C/68°F with intermittent agitation.

PROCESSING

SFX 200 can be processed in all types of processing equipment, including spiral tanks, rotary processors, deep tanks and automatic processors. Standard capacity figures and replenishment rates can be maintained.
SFX 200 is very robust in processing and will tolerate less than ideal processing conditions. Also, it will not contaminate the processing chemicals.

DEVELOPMENT TIMES

The table on page 4 gives development times for both manual and machine processing. 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 in 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, and for use in rotary processors without a pre-rinse - reduce the spiral tank development times by up to 15%.
Generally, a pre-rinse is not recommended, as it can lead to uneven processing.

CHOOSING THE BEST ILFORD DEVELOPER FOR THE JOB

Manual processing Spiral tank, dish/tray, deep tank Including rotary processors

	Liquid	Powder
Best overall image quality		
EI 200/24	ILFOTEC DD-X	ID-11 (stock)
EI400/27	ILFOTEC DD-X	ID-11 (stock)
EI800/30	ILFOTEC DD-X	ID-11 (stock)
Finest grain	ILFOTEC DD-X	PERCEPTOL
Maximum sharpness	ILFOSOL 3 (1+9)	ID-11 (1+1)
Maximum film speed	ILFOTEC DD-X	MICROPHEN (stock)
Economy	ILFOTEC LC29 (1+29)	ID-11 (1+1) MICROPHEN (1+1)
One-shot convenience	ILFOSOL 3 (1+9) ILFOTEC DD-X	ID-11 (1+1) MICROPHEN (1+1)
Replenishable	ILFOTEC DD-X	ID-11

Machine Processing

Dip and dunk	ILFOTEC DD ID-11	Best overall image quality (liquid) and long tank life Best overall image quality (powder) and long tank life
Short leader	ILFOTEC RT RAPID	Rapid processing, best overall image quality and long tank life.
Roller transport	ILFOTEC RT RAPID	Rapid processing

35mm and Roll Film

ILFORD developer	Dilution	Meter setting (EI) 200/24	400/27	800/30
Spiral tank, deep tank, dip and dunk machines (min/20°C/68°F)				
ILFOTEC DD-X	1+4	10	14	–
ILFOSOL 3	1+9	6	8½	–
	1+14	9	13½	–
ILFOTEC HC	1+15	5	7	10½
	1+31	9	13	19
ILFOTEC LC29	1+9	5	7	10½
	1+19	9	13	19
	1+29	11	–	–
ID-11	stock	10	14	18
	1+1	17	–	–
MICROPHEN	stock	8½	10½	14½
	1+1	15½	19	–
PERCEPTOL	stock	14½	–	–
	1+1	20	–	–
Non-ILFORD Developers (min/20°C/68°F)				
Developer	Dilution	Meter setting (EI)		
		200/24	400/27	800/30
Kodak D-76	stock	10	12½	16½
	1+1	14½	–	–
Kodak HC-110	A	5	7	10½
	B	9	13	19
Kodak T-Max	1+4	8½	10½	12½
Tetenal Ultrafin	1 + 10	10	13	–
Kodak Xtol	stock	7	11	–

Dip and dunk machines (min/24°C/75°F)

ILFOTEC DD	1+4	8½	11½	14
Kodak T-Max RS	stock	6	7	9
Kodak Xtol	stock	7	9	11½

ILFOLAB FP40, roller transport and short leader machines (sec/26°C/79°F)

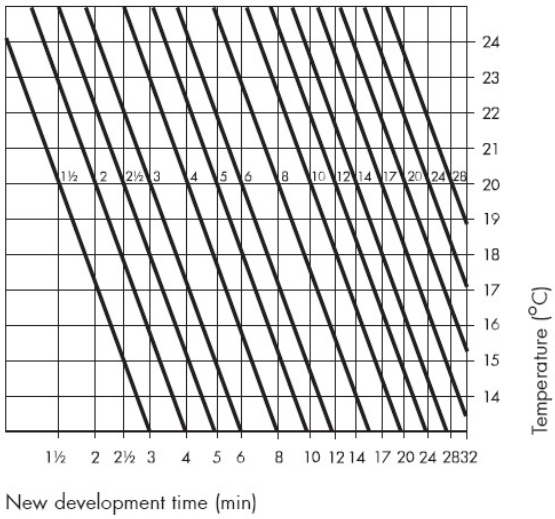
ILFOTEC RT RAPID	1+1+2	54	65	88
	1+1+5	65	90	120

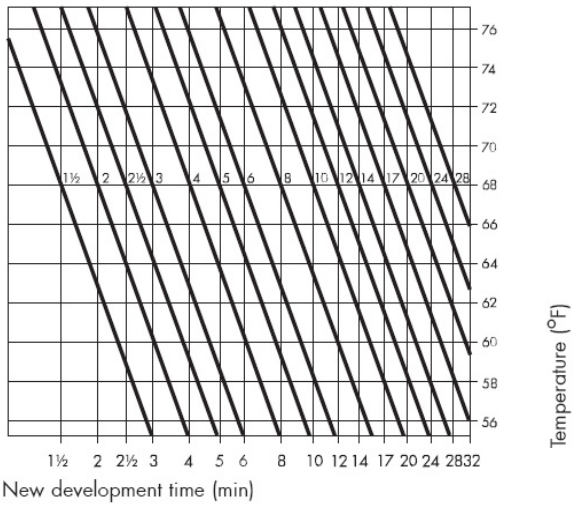
Note. Development times may need adjusting to suit individual processing systems and working practices. If an established system is producing good results, adjust the recommended development times until the desired contrast level is obtained. Development times in other manufacturers' developers are included 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

Processing at Different Temperatures

SFX 200 film can be processed over a range of temperatures. Approximate development times at temperatures other than 20°C/68°F may be calculated from the charts 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.





PROCESSING

SFX 200 can be processed in all types of processing equipment including spiral tanks, rotary processors, deep tanks and automatic processors. Standard capacity figures and replenishment rates can be maintained.

Safelight recommendations

Handle SFX 200 film in total darkness.

Agitation

Intermittent agitation is recommended for use in spiral tanks and deep tanks. With spiral tanks, invert the tank four times during the first 10 seconds, then invert the tank four times again during the first 10 seconds of each further minute. Otherwise, follow the recommendations given by the processing equipment manufacturer.

Stop, fix, wash and rinse

For best results it is recommended that all process solutions are kept at the same temperature or at least within 5°C (9°F) of the developer temperature.

Stop Bath

After development the film can be rinsed in water, but we recommend that an acid stop bath is used such as ILFORD ILFOSTOP (with indicator dye). ILFOSTOP is also recommended for all machine processing applications. When tanks or dishes (trays) of process solutions are in use a stop bath immediately stops development and reduces carry over of excess developer into the fixer bath. This helps to maintain the activity and prolong the life of the fixer solution.

ILFORD ILFOSTOP	
Dilution	1+19
Temperature Range	18–24°C (64–75°F)
Time (sec) at 20°C (68°F)	10
Capacity (films per litre, unreplenished)	15x (135-36)

Fix
The recommended fixers are ILFORD RAPID FIXER or ILFORD HYPAM FIXER.

Wash
Wash the films in running water for 5–10 minutes at a temperature within 5°C (9°F) of the process temperature. Or see note below for greater economy when using spiral tanks.

ILFORD RAPID OR HYPAM FIXERS	
Dilution	1+4
Temperature Range	18–24°C (64–75°F)
Time (mins) at 20°C (68°F)	2-5
Capacity (films per litre, unreplenished)	24x (135-36)

Note: For spiral tank use, 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.
After fixing, fill the spiral tank with water at the same temperature, ± 5°C (9°F), as the processing solutions and invert it five times. Drain the water away and refill. Invert the tank ten times. Once more drain the water away and refill. Finally, invert the tank twenty times and drain the water away.

Rinse
For a final rinse use ILFORD ILFOTOL wetting agent added to water, it helps the film to dry rapidly and evenly. Start by using 5ml per litre of rinse water (1+200), however the amount of ILFOTOL used may need some adjustment depending on the local water quality and drying method. Too little or too much wetting agent can lead to uneven drying. Remove excess rinse solution from the film before drying.

Drying
To avoid drying marks, use a clean squeegee or chamois cloth to wipe SFX 200 film before hanging it to dry. Dry SFX 200at 30–40°C/86-104°F in a drying cabinet or at room temperature in a clean dust-free area.

STORAGE
For immediate use, store SFX 200in a cool (10–20°C/50-68°F), dry place in its original packaging.
SFX 200 may be stored in a fridge/freezer but allow plenty of time for the film to acclimatise prior to use.

Exposed film
Once exposed, process SFX 200 as soon as practical.
Exposed films should always be stored in cool, dry conditions - as recommended above.

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.

A wide range of fact sheets is available which describe and give guidance on using ILFORD PHOTO products. Some products in this fact sheet might not be available in your country.

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