TECHNICAL INFORMATION

KENTMERE PAN 100

A MEDIUM SPEED BLACK AND WHITE CAMERA FILM

KENTMERE PAN 100 is a medium speed black and white camera film which is suitable for a variety of indoor and outdoor photography applications, where good lighting exists.
It has the capability to generate high quality images with fine grain and good sharpness and is a good choice of film if enlargement prints are desired.

KENTMERE PAN 100 film is coated on 0.125mm/5-mil acetate base and is available in 135 cassettes, 35mm bulk lengths of 30.5 metres (100ft) or 120 Roll film format. KENTMERE PAN 100 35mm film is supplied in 24 or 36 exp DX coded cassettes, suitable for all 35mm cameras. Roll film is available in 120 lengths and is edge numbered 1 to 19.

EXPOSURE RATING

KENTMERE PAN 100 has a speed rating of ISO 100/21° 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.

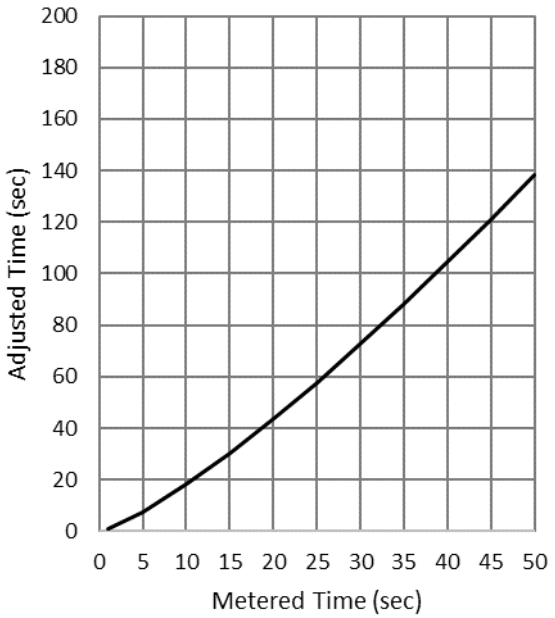
FILTER FACTORS

KENTMERE PAN 100 film may be used with all types of filters (e.g. 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 and 1/10 000 second, no adjustments are needed for reciprocity law failure.

When exposures longer than 1 second are given, KENTMERE PAN 100, 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 metered time is known.



The graph is based on the formulae $Ta = Tm^{1.26}$

Ta = Adjusted Time
Tm = Metered Time

DEVELOPMENT TIMES

The table below gives development times for both manual and machine processing KENTMERE PAN 100. 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.

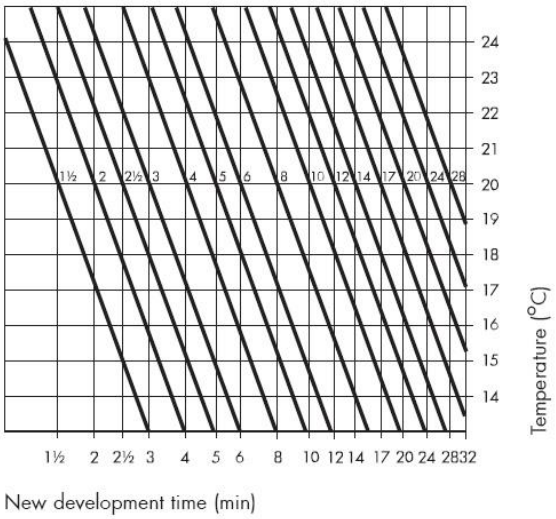
For manual processing in spiral tanks and deep tanks, the development times are based on intermittent agitation. Where continuous agitation is used for manual processing (as in a dish/tray or with some types of developing tank), reduce these times by up to 15%. For use in rotary processors without a pre-rinse, reduce the spiral tank development times by up to15%. A pre-rinse is not recommended as it can lead to uneven processing.

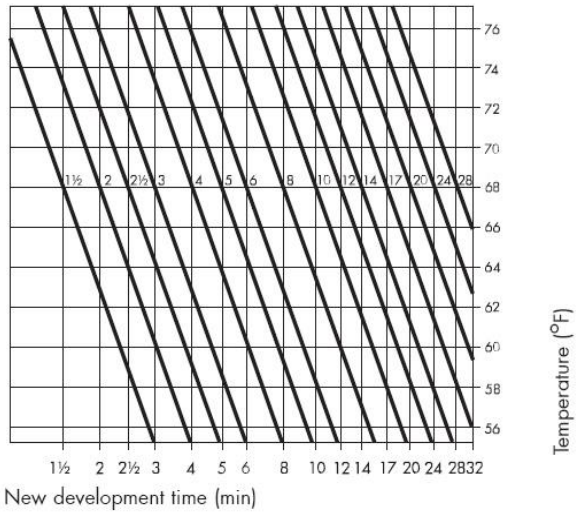
ILFORD developer	Dilution	Meter setting (EI) 50/18	100/21	200/24
Spiral tank, deep tank, dip and dunk machines (min:sec @ 20°C/68°F)				
ILFOTEC DD-X	1+4	8:30	10:30	12:30
ILFOSOL 3	1+9	-	5:00	-
	1+14	-	7:30	-
ILFOTEC HC	1+15	-	4:00	5:00
	1+31	5:00	6:30	8:00
ILFOTEC LC29	1+9	-	4:00	5:00
	1+19	5:30	7:00	8:00
	1+29	7:30	11:00	-
ID-11	stock	7:00	9:00	11:00
	1+1	8:30	11:30	15:30
	1+3	17:30	21:00	-
MICROPHEN	stock	-	8:30	9:00
	1+1	-	10:30	14:00
	1+3	-	14:30	-
PERCEPTOL	stock	9:30	12:30	-
	1+1	13:30	15:30	-
	1+3	-	-	-
Non-ILFORD Developers (20°C/68°F)				
Kodak D-76	stock	7:00	9:00	11:00
	1+1	8:30	11:30	15:30
	1+3	17:30	21:00	-
Dip and dunk machines (24°C/75°F)				
ILFOTEC DD	1+4	7:30	9:00	12:00
ILFOLAB FP40, roller transport and short leader machines (26°C/79°F)				
ILFOTEC RT RAPID	1+1+2	0:45	0:50	0:60
	1+1+5	0:60	1:10	1:30

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 for some 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

KENTMERE PAN 100 film can be processed over a range of temperatures. 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 min and the time at 16°C/61°F will be 6 min.





PROCESSING

KENTMERE PAN 100 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. KENTMERE PAN 100 is very robust in processing and will tolerate less than ideal processing conditions. Also, it will not contaminate the processing chemicals.

Safelight recommendations

Handle KENTMERE PAN 100 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)	10-30
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 KENTMERE PAN 100 film before hanging it to dry. Dry KENTMERE PAN 100 at 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 KENTMERE PAN 100 in a cool (10–20°C/50-68°F), dry place in its original packaging.
KENTMERE PAN 100 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 KENTMERE PAN 100 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 are available which describe and give guidance on using our products.
Some products in this fact sheet might not be available in your country.

HARMAN technology Limited, Ilford Way, Mobberley,
Knutsford, Cheshire WA16 7JL, England
www.ilfordphoto.com