

ILFORD

Perceptol Developer and Replenisher

Perceptol is the developer to use when fine grain is of paramount importance.

Recommended meter settings for Ilford films developed in Perceptol are given below.

	Pan F	FP4	Selochrome	HP3	HP4
ASA	25	64	80	200	200
DIN	15	19	20	24	24

To avoid mild reticulation—a fine, mottled effect which is often mistaken for very coarse grain—all processing solutions, including wash water, should be kept at similar temperatures (+ or -5°C) and the use of a rinse or stop bath, to prevent sudden changes from alkaline (developer) to acid (fixer), is also recommended.

DEVELOPER

MIXING

Some people are sensitive to the chemicals used in photographic developers. Care should therefore be taken to avoid getting developer on the skin.

Mix the full quantity of developer. Do not make up smaller quantities by dividing the powders into parts—the ingredients may not then be evenly mixed.

Measure out a quantity of warm water (40°C/105°F)—equal to about three-quarters of the total volume stated on the carton. Add the complete contents of the smaller package, stir until dissolved, then gradually add the contents of the larger package and stir until dissolved. Finally, add cold water to make up the correct quantity. The developer is then ready for use and does not need diluting; it will keep in good condition for about six months if stored in air-tight bottles filled to the neck. In half-full bottles it will keep for about four weeks.

DEVELOPMENT TIMES

The times below are in minutes and refer to development at 20°C/68°F using intermittent agitation—agitation for the first ten seconds of development, and then ten seconds every minute for the rest of the time.

film	average contrast	higher contrast
	\bar{G} 0.55	\bar{G} 0.70
Pan F (35 mm)	8½	12
FP4 (roll/flat/35 mm)	8	10½
HP4 (roll/flat/35 mm)	8½	11½

To compensate for loss of activity, increase the development time for each successive film by 10% after the first when using 600 cc of developer. In larger quantities, a proportional increase is recommended—i.e. a 10% increase after every eight films when using a gallon of solution and 10% after every forty films in five gallons. The chart below enables the 10% increase to be easily read off—find your initial development time on the original time scale, then look at the corresponding time on the + 10% scale. For example, if your initial development time is 5 minutes, your second development time will be 5½ minutes. For your third development time, find 5½ minutes on the original time scale, then read down to the + 10% one—in this case, your third development time will be 6 minutes. An ounce to cc conversion table has also been included.

ounces

1 2 3 4 5 6 7 8 9 10

cc

28 57 85 114 142 170 199 227 256 284

Original time

3 4 5 6 7 8 9 10 11 12 13 14 15

3 4 5 6 7 8 9 10 11 12 13 14 15 16

Time + 10%

'ONE-SHOT' TECHNIQUE

When using small spiral tanks, it is probably more economical to dilute the Perceptol stock solution 1 + 1 or 1 + 3—for example, from the 600 cc size, 75 cc could be diluted 1 + 3 to make 300 cc, allowing eight 120 rollfilms to be processed in a 300 cc tank. Perceptol should only be diluted immediately before use, and the developer in the tank should be discarded after each film has been processed.

With this method, a constant development time can be used throughout the life of the developer. The following times are in minutes at 20°C/68°F using intermittent agitation—a higher processing temperature will reduce these times.

film	ASA/DIN	\bar{G} 0.55	
		1 + 1	1 + 3
Pan F (35 mm)	32/16	12	15
FP4 (roll/flat/35 mm)	100/21	9	13
HP4 (roll/flat/35 mm)	250/25	12	

REPLENISHER

The addition of Perceptol Replenisher at regular intervals as directed will substantially increase the life of the developer and maintain activity at a constant level. As stated, Perceptol dilutions must not be stored and therefore cannot be replenished.

MIXING

See developer mixing instructions. The replenisher should be used undiluted. It will keep in good condition for about six months if stored in air-tight bottles filled to the neck and for about four months in half-full bottles.

USE

Small quantities of developer—add 1 oz (28 cc) of replenisher after processing one 120 rollfilm*. The best way to replenish small quantities of solution is to pour the required amount of developer from the storage bottle into the tank, then immediately add the required amount of replenisher to the storage bottle. When the developer in the tank has been used, pour back into the storage bottle sufficient to make up the original volume of developer and discard the rest.

Larger quantities of developer—add replenisher to the developer when the volume has decreased by 5%—or when the equivalent of about ten 120 size rollfilms* have been processed in 1 gallon (4.5 litres) of developer. Replenishment by topping-up will sometimes lead to under-replenishment and hence a drop in activity—it may then be necessary to add replenisher on the basis of film throughput, bleeding off developer to make room for the replenisher, but care should be taken to ensure that the fresh replenisher does not immediately flow out of the tank with the exhausted developer. Replenisher added at the rate of 7½ oz (210 cc) for every ten 120 size rollfilms* processed should keep the activity at a constant level.

The developer should be discarded after about sixteen weeks' use, irrespective of the number of films processed.

*One 120 size rollfilm (80 square inches/520 square cm) is equal to one 10 x 8 inch sheet, one 36 exposure 35 mm film, or five 9 x 12 cm sheets.

FIXING

For best results with Perceptol, use Ilford Hypam rapid fixer.

Perceptol, Microphen and Hypam are trade marks.