ILFORD
Microphen Developer and Replenisher

Microphen is a special type of developer for films and plates, giving high film speed with fine grain. It is based on the Ilford developing agent Phenidone, and shows exceptional consistency in performance throughout its working life.

Films developed in Microphen show an increase in emulsion speed. The amount by which the speed can be increased in any given instance will depend on the film or plate employed and on the user's technique. With many materials, an increase of at least 50 per cent will be possible in normal circumstances (e.g. for HP5, 650 ASA instead of 400). Some users will find that they can employ even higher meter settings. This speed increase is obtained at normal development times and normal contrasts.

DEVELOPER

MAKING UP

Always make up the developer as packed; do not attempt to prepare smaller quantities by taking fractional parts of the powders.

Dissolve the contents of the smaller packet in about three-quarters of the total volume (see label) of hot water at about 50°C (125°F). When most of the chemicals have dissolved, add the contents of the large bag and stir until completely dissolved. Add cold water to make up to the total volume.

WORKING STRENGTH

Use undiluted.

CAPACITY (without replenishment)

If stored in a well-stoppered bottle, Microphen will keep well and may be used repeatedly. Under normal conditions six No. 120 rollfilms or 36-exposure 35 mm miniature films may be developed in 600 ml (21 oz) of developer. With larger packings, forty-five 120 rollfilms or 36-exposure 35 mm miniature films may be developed in every 5 litres of developer (or 40 films in every gallon). Two 20-exposure 35 mm films are equivalent to one 36-exposure film for the purpose of determining useful life. To maintain uniform contrast throughout the useful life of the developer increase the development time as follows: In 600 ml (21 oz) of solution, increase the time by 10% for each film after the first. In 5 litres (1.1 gallons) of solution, increase the time by 10% after each group of nine films has been processed.

The increase necessary with larger quantities of solution is proportional, e.g. in 25 litres (5.6 gallons) increase the time by 10% after each group of 45 films has been processed.

DEVELOPMENT TIMES

Recommended times for the development of Ilford films are given below. These times may be increased by up to 50 per cent for greater contrast, or where the highest speed is essential – as in the case of known under-exposure.

General purpose materials are normally developed to a G (average contrast) of 0.55 if a tungsten enlarger is used for printing, and to a G of 0.70 if a cold cathode enlarger is used. The times given below are in minutes and refer to development at 20°C (68°F) with intermittent agitation (agitation for the first 10 seconds of development, then for 10 seconds every minute for the remainder of the development time). If continuous agitation is used these times should be reduced by one-quarter.

	$\bar{G}$ 0.55	$\bar{G}$ 0.70
Rollfilms		
Pan F	4½	7
FP4	5	7½
HP4	5	7½
35 mm films		
Pan F	4½	7
FP4	5	7½
HP4	5	7½
HP5	6	8½
Flat films		
FP4	5½	9½
HP4	5	8

REPLENISHER

MAKING UP

Always make up the replenisher as packed; do not attempt to prepare smaller quantities by taking fractional parts of the powders.

Dissolve the contents of the smaller packet in about three-quarters of the total volume (see label) of hot water at about 50°C (125°F). When most of the chemicals have dissolved, add the contents of the large bag and stir until completely dissolved. Add cold water to make up to the total volume.

WORKING STRENGTH

Use undiluted.

REPLENISHMENT

Replenishers réplace the chemicals used up during development, so that the solution volume, activity and development times can be maintained. When topping-up, add replenisher to the solution when its volume has decreased by 5% or when about 1.4 square metres (16 square feet) of sensitised material has been processed in each 5 litres (1.1 gallons) of solution. This replenishment rate is approximately 170 ml per square metre or 16 ml per square foot (20 rollfilms are equal to 1 square metre or 10 square feet). Slight adjustments to replenisher rate and/or dilution may be necessary if the average density alters excessively from the normal, or when bleed-off systems are used, and the rate of replenishment exceeds the carry-over volume.

RECOMMENDED FIXERS

Ilford Hypam rapid fixer (liquid)
Ilfofix (powder)

Hypam, Ilfofix, Microphen and Phenidone are trade marks.

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