

ILFORD

Ilfofix

Ilfofix is a fixer containing sodium thiosulphate (hypo) and a hardening agent.

It is suitable for all types of films including X-ray; papers and plates, and can be used in systems employing silver recovery.

MAKING UP

Slowly pour the contents of the pack into about threequarters of the total volume (see label) of warm water not above 27°C (80°F), stirring until completely dissolved. Add cold water to make up to the total volume.

WORKING STRENGTH

Films and plates—use undiluted.

Papers—dilute 1+2.

FIXING

X-ray films 5 minutes

Roll and 35 mm films 4 minutes

Flat films and plates 4 minutes

Papers 5 minutes

In order to avoid the risk of insufficient fixation, materials should remain in the fixer for double the time taken to clear in fresh solution. The clearing time can be checked by the method explained later.

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.

CAPACITY

5 litres (1.1 gallons) of working strength fixer will fix approximately:

3 square metres (32 square feet) of x-ray film

6 square metres (64 square feet) of roll and 35 mm film

6 square metres (64 square feet) of flat film and plates

10 square metres (111 square feet) of paper

REPLENISHMENT

Fixers become exhausted for two main reasons.

1 *Dilution of fixer by preceding baths.*

2 *Accumulation of silver in the fixer due to chemical reaction.*

The activity of a film fixer can be restored by the addition of fresh fixer and the silver content can be allowed to rise to a high level (10 grams per litre) without serious effect.

The useful life of paper fixers is mainly limited by the concentration of silver in the solution which, if allowed to build up to too high a level (about 3 grams per litre), will tend to remain in the paper after washing and give rise to print staining. This can be avoided by the use of two-bath fixing but where this is not possible, no more than 25 per cent of the original solution should be replenished before discarding the solution.

CHECKING ACTIVITY

Acidity

The pH (acidity) of the fixer should be 5.0 and this can be readily checked with pH papers. If the pH is found to be too high (above 6.0) acetic acid (50% solution) should be added carefully, stirring until the pH value falls to 4.8 to 5.5. The use of an acid stop bath before fixation will help prevent this rise in pH.

Specific gravity

The specific gravity of a working strength film fixer should be 1.17 and this can be checked with a hydrometer. If the specific gravity of the solution is low it can be restored by adding fresh fixer.

Clearing time

The clearing time of a film can be found by making a test on a small piece of unprocessed film reserved for this purpose. A drop of fixer should be allowed to act on the piece of film for about 30 seconds, the whole piece should then be immersed in the fixer and the time at which the spot disappears is taken as the clearing time.

Silver concentration

The silver concentration in a fixing bath can be determined with the aid of silver estimator papers. This test is particularly useful in paper fixing baths and when silver recovery is employed.