

Kodak XTOL Developer

in Rotary Tube Processors

PROPERTIES:

- Two-part Powder
- Mixes at room temperature
- Package sizes:
 - 1 liter (Cat.#888-8182)
 - 5 liters (Cat.#875-1752)
 - 50 liters (Cat.#818-4517)

INSTRUCTIONS:

- Obtain Kodak Publication (Use of Xtol in Rotary Tube Processors)

FILMS TESTED / DILUTIONS USED:

- Agfapan APX-100, APX 400 Full Strength and 1:1 dilution
- Fuji Neopan 400 Full Strength and 1:1 dilution
- Ilford FP4+, HP5+, Delta 100 Full Strength and 1:1 dilution
- Kodak TRI-X, TMX, TMY Full Strength and 1:1 dilution

Note: All films were 135-36. Films were rated at the published ISO. Exposures were made in a Nikon F-3, and processing was carried out in a Jobo ATL-2+, 68 degrees F., rotation speed 75 RPM.

PREWET:

A prewet is NOT RECOMMENDED with Xtol Developer.

PROCESSING WITH FULL STRENGTH DEVELOPER:

Kodak states that Xtol will process 5 rolls of 135-36 in one liter of solution without the use of time compensation. (See Section in Time Compensation in the Kodak Instructions.) This equals 200 ml of developer per roll. All of the films listed, when developed in 200 ml of full strength developer for the times suggested by Kodak, yielded negatives with good maximum density and a full range of detail.

Since most Jobo film tanks will process with less than the 200 ml per roll required by Kodak, the next tests were carried out at the Jobo tank minimums, using quantities of 140 ml in a #1510 tank. In these cases, with the Fuji Neopan 100 and the Agfapan 100 and 400 films listed, there were signs of under development. The highest densities were low, and the film could not ever achieve the Contrast Index (CI) stated by Kodak.

The Kodak and Ilford films were a different story. Using 140 ml of Xtol full strength the results were comparable to development at 200 ml. (In making this comparison we considered a variation of 1/3 stop or less to be acceptable). Based upon these results it is safe to say that with Kodak and Ilford films you can process, with full strength Xtol, at the stated solution quantities for the Jobo tank being used.

PROCESSING WITH DILUTE DEVELOPER:

Kodak's charts show dilutions of 1:1, 1:2, and 1:3. Any film requires a minimum amount of developer in order to properly process. Less than the minimum amount yields thin negatives, lack of shadow detail, and low D-max. Conversely, a greater than the minimum amount of solution, when used at the same developing time, does not overdevelop the film.

With Kodak, Ilford, and Fuji films, 1:1 dilutions presented no problem when using 200 ml (100 ml Xtol/100ml water). When using the times shown by Kodak, the film reached proper density. No tests were performed at dilutions greater than 1:1.

With Agfa, dilute Xtol may be a problem. Processing at 1:1 with less than a 100% increase in total solution quantity showed reduced D-max and lower densities. It was not until we were processing one roll of film in 200 ml full strength developer plus 200 ml of water that the densities of the roll were approaching the process in full strength developer alone.

If you intend to try Xtol at 1:1 or greater dilution you should test for yourself to be sure that Kodak's suggested times yield satisfactory results for you. Also, test for developer quantity, since you may find that results at less than the 400 ml (200 ml full strength / 200 ml water) will work for you.