



ILFORD
Best in Black & White

APPLICATIONS DEVELOPING BLACK & WHITE FILMS



[[Thinking in B&W](#)] - [[Getting Started](#)] - [[Taking Pictures in B&W](#)] - [[Developing B&W](#)] - [[Printing B&W](#)] - [[The Negative](#)]

Development Chart

ILFORD publishes two charts on this website. The processing chart shows recommended development times for ILFORD conventional monochrome camera films in a variety of developers, and the time/ temperature compensation chart shows how to adjust development times for temperatures other than the standard 20°C/ 68°F.

ILFORD XP2 SUPER film is processed in standard C41 chromogenic colour chemistry.

Users of DELTA 3200 film should follow the recommendations in the DELTA 3200 fact sheet; fact sheets for other ILFORD films provide recommendations covering exposure over a greater spread of EI, and also processing in a wider range of developers than is possible in the one-page overall chart.

These recommended figures are intended as a guide only: some users may prefer to vary them according to their own circumstances. They are intended to produce negatives suitable for use with diffuser enlargers, and some reduction of the development time may provide negatives of slightly lower contrast that are more suitable for use with condenser enlargers.

The time/ temperature compensation chart is provided as a quick and easy guide for users who need to adjust development times for processing temperatures other than the standard 20°C/ 68°F. It is a useful guide for all film/development combinations: note that it is important that all solutions, including wash water, are at approximately the same temperature, say within 5°C/ 10°F.

To use, find the row with the recommended or normally used development time for the film/developer combination at 20°C/68°F (the shaded column). Follow the row, left or right until it matches the column for the required temperature and read off the new development time. For example, if 8 minutes at 20°C/68°F is recommended, the compensated development time for 24°C/75°F will be 5 minutes and 30 seconds.

Please note that for ease of use development times have been rounded to the nearest 15 seconds.

Development times shorter than approximately 5 minutes are not recommended as they may cause uneven processing. It is not normally necessary to vary the fixation time, though when processing at temperatures significantly lower than standard it may be worth trying the clearing time test shown in the processing B&W film fact sheet as some increase in fixation time may be required, especially for DELTA films.

- [ILFORD FILM Processing Chart pdf](#)
- [Temperature Compensation Chart pdf](#)

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