

To produce negatives consistent in overall density and quality, make exposure compensation when you adjust development times, particularly shorter development times. When reducing development times, *increase* exposure by $\frac{1}{3}$ stop. When increasing development times, *reduce* exposure by about $\frac{1}{3}$ stop.

The effective printing contrast of negatives is affected by the method you use in making prints. A diffusion-type enlarger produces about the same degree of contrast in the print as a contact printer. A condenser enlarger produces greater contrast than a diffusion enlarger or contact printer. The difference may be as much as contrast difference between No. 2 and 3 grades of photographic paper.

FILM DEVELOPMENT

The development tables on pages 18 to 23 provide best results when you make enlargements on diffusion enlargers. If you use a condenser enlarger, increase your film exposure by $\frac{1}{3}$ to $\frac{1}{2}$ stop, and reduce the development by 20 to 30%.

If your negatives are consistently too thin (lacking shadow detail), use a lower film speed or exposure index when exposing the film. If they are too dense, use a higher film speed. If negatives are too flat, increase the development time. If they are too contrasty, decrease development time.

All development times provided are for a diffusion enlarger. To obtain a negative contrast index of 0.42 with a condenser enlarger, reduce the film development time by 20 to 30%. Also, increase exposure by $\frac{1}{3}$ to $\frac{1}{2}$ stop when you expose the film in the camera.

If you want to know more about enlarging techniques, a good book on this subject is *Black-and-White Darkroom Techniques*, Kodak Publication No. KW-15.

Note: New technology applied to

black-and-white films by Kodak in 2002 resulted in revised processing times. These tables reflect the revised times for Kodak PROFESSIONAL T-MAX Films and Kodak PROFESSIONAL PLUS-X 125 Film (rolls).

KODAK PROFESSIONAL T-MAX 100 Film / TMY (Rolls)

Kodak Developer or Developer and Replenisher	Developing Time (Minutes)					
	Small Tank (Agitation at 30-second intervals)			Large Tank (Agitation at 1-minute intervals)*		
	65°F (18°C)	70°F (21°C)	75°F (24°C)	65°F (18°C)	70°F (21°C)	75°F (24°C)
T-Max	NR	7 1/2	6 1/2	NR	8 1/2	7 1/2
T-Max RS	NR	8	7 1/2	NR	8 3/4	7 3/4
D-76	7 1/2	6 1/2	5 1/2	8 1/4	6 1/2	5 3/4
D-76 (1:1)	11	9 1/2	7 1/2	—	—	—
HC-110 (Dil B)	6 1/2	6	5 1/2	7 1/2	6	5 1/4
MICRODOL-X	13 1/2	11 1/2	10 1/2	15	13	11 3/4
MICRODOL-X (1:3)	NR	17	15 1/2	NR	17 1/2	15 1/2
Xtol	8 1/2	7 1/2	6 1/2	9 1/2	8 1/4	7 1/4
Xtol (1:1)	11 1/2	9 1/2	8 1/2	—	—	—

KODAK PROFESSIONAL T-MAX 100 Film / TMY (Sheets)

Kodak Developer or Developer and Replenisher	Developing Time (Minutes)					
	Tray (Continuous agitation)			Large Tank (Agitation at 1-minute intervals)*		
	65°F (18°C)	70°F (21°C)	75°F (24°C)	65°F (18°C)	70°F (21°C)	75°F (24°C)
T-Max RS	NR	7 1/4	6 3/4	NR	8 3/4	7 3/4
D-76	6 3/4	5 1/4	4 3/4	8 3/4	7 1/4	6 3/4
HC-110 (Dil B)	6 1/4	5 1/2	4 1/2	7 1/2	6 1/2	5 1/2
Xtol	8	6 3/4	5 1/4	9 1/2	8 1/4	7 1/4
Xtol (1:1)	10 1/2	9	8	—	—	—

KODAK PROFESSIONAL T-MAX 400 Film / TMY (Rolls)

Kodak Developer or Developer and Replenisher	Developing Time (Minutes)					
	Small Tank (Agitation at 30-second intervals)			Large Tank (Agitation at 1-minute intervals)*		
	65°F (18°C)	70°F (21°C)	75°F (24°C)	65°F (18°C)	70°F (21°C)	75°F (24°C)
T-Max	NR	7	6 1/2	NR	7	6 1/2
T-Max RS	NR	7	6	NR	8 1/2	7 1/2
D-76	9	8	7 1/2	10	9	8 1/2
D-76 (1:1)	14 1/2	12 1/2	11	—	—	—
HC-110 (Dil B)	6 1/2	6	5 1/2	8	7	6 1/2
MICRODOL-X	12	10 1/2	9	13	11 1/2	10
MICRODOL-X (1:3)	NR	NR	20	NR	NR	NR
Xtol (1:35)	7 1/2	6 1/2	5 1/4	9	7 3/4	6 1/2
Xtol (1:20)	7 1/2	6 1/2	5 1/4	9 1/4	7 3/4	6 1/4
Xtol (1:1) (1:35)	—	8 3/4	8	—	—	—
Xtol (1:1) (1:20)	—	9 1/4	8 1/2	—	—	—

KODAK PROFESSIONAL T-MAX 400 Film / TMY (Sheets)

Kodak Developer or Developer and Replenisher	Developing Time (Minutes)					
	Tray (Continuous agitation)			Large Tank (Agitation at 1-minute intervals)*		
	65°F (18°C)	70°F (21°C)	75°F (24°C)	65°F (18°C)	70°F (21°C)	75°F (24°C)
T-Max RS	NR	8	7 1/2	NR	10	8 1/2
D-76	9 1/2	7	6 1/2	11	10	9
HC-110 (Dil B)	9	7 1/2	6 1/2	10	8 1/2	7 1/2
Xtol	8 1/2	7 1/4	6 1/4	10	8 1/2	7 1/4
Xtol (1:1)	—	10 1/2	9 1/2	—	—	—

* The recommendations for using Kodak Xtol Developer in a large tank are based on a nitrogen burst cycle of 2 seconds every 8 seconds.

NR=Not recommended

Bold type=Primary recommendations

Note: Tank development times shorter than 5 minutes may produce unsatisfactory uniformity.