

Film Development

Film Type	ISO	Developer	Dilution	Temp	Time
Kodak: Plus-X:	125	D-76	1 : 1	70 ° F	6 1/2 min.
Tri-X:	400	D-76	1 : 1	70 ° F	9 1/2 min.
TMax 100:	100	D-76	1 : 1	70 ° F	11 min.
TMax 400:	400	D-76	1 : 1	70 ° F	11 min.
Ilford: FP-4:	125	D-76	1 : 1	70 ° F	8 min.
HP-5:	400	D-76	1 : 1	70 ° F	11 min.
DELTA 400:	400	D-76	STOCK	70 ° F	7 min.

I recommend using chemistry and water temperatures at 70° F. This is easier to obtain and maintain with the RIT labs.

IT IS IMPORTANT TO HAVE ALL YOUR CHEMISTRY AT 70° F. THE MOST CRITICAL CHEMISTRY IS THE DEVELOPER. WARMER TEMPERATURES THAN THE RECOMMENDED OVER DEVELOPS THE NEGATIVES, COOLER TEMPERATURES THAN THE RECOMMENDED UNDER DEVELOPS THE NEGATIVES.

(<http://www.digitaltruth.com/> For Massive Development Chart)

1. Water Rinse for 1 minute.
2. Developer: D-76 - 1:1 - See above for time *. Agitate first thirty seconds, one inversion per second, then agitate five seconds every thirty seconds until completion of development. Drain tank. DUMP
DEVELOPER DOWN DRAIN - DO NOT RE-USE! For other developers ask for proper time/temperature combinations. (I suggest that you always use distilled water when mixing your developers for optimum consistency.)

* FILM TYPES AND DEVELOPERS CAN VARY FOR STEP ONE BUT ALL OTHER STEPS WILL REMAIN A CONSTANT.

3. Stop bath: Use working solution in darkroom and return to gallon jug when finished. Water may be substituted for stop bath - if water is used, fill tank with 70°F water, agitate continuously, one inversion per second for 10 second then drain water. Repeat three times for approximately 30 seconds.
(To mix and save your own: 1 gallon/4 oz. 28% acidic acid stock solution)
- Agitate continuously, one inversion per second. Drain tank.
SAVE STOP BATH AND RETURN TO PROPER CONTAINER - DO NOT DUMP STOP DOWN THE DRAIN! RIT working solution can be used many times before being dumped down the drain when exhausted.

4. Fixer or Hypo: Kodak Rapid Fix/Ilfospeed fix - 5 minutes/_____.
Agitate first thirty seconds, one inversion per second, then agitate five seconds every thirty seconds until completion of fixing. Drain tank.
SAVE FIXER AND RETURN TO PROPER CONTAINER - DO NOT DUMP FIXER DOWN DRAIN. AFTER PROPER FIXING TIME FILM CAN BE VIEWED IN ROOM LIGHT. FIXER IS TO BE RECLAIMED, DO NOT DUMP!
5. Water Rinse: Fill tank with water and drain three times.
6. (Perma Wash/Orbit Bath) or Hypo Eliminator: 2 minute /_____.
Edwal Wash Aid (RIT has a working solution of 1 : 4 from tap.
Agitate first fifteen seconds, one inversion per second, then agitate 5 seconds every fifteen seconds to end of time.
YOU CAN SAVE HYPO ELIMINATOR AND USE OVER AND OVER, BUT HERE AT RIT, AFTER USING IT, DUMP IT DOWN THE DRAIN.
7. Final Water Wash: 5-10 Minutes/_____. RIT does not have film washers.
Fill and dump water in film tank with reels for 10 minutes. If you have a film washer, take film out of film tank, leave on reel, place in film washer, turn on water, wash for proper time.
DO NOT TURN FILM WASHER ON WHEN IT IS EMPTY - WATER WILL SPRAY OUT!
8. Wetting Agent: 30 seconds/_____. LFN or Photo-Flo, Fill tray with water, then add LFN and mix well. TAKE FILM OFF REEL ! Soak in LFN or Photo-Flo and hang film to dry. DUMP WETTING AGENT DOWN DRAIN. DO NOT RE-USE !
I suggest that you always use distilled water when mixing wetting agent.
9. Squeegee film if desired. I recommend that you do not Squeegee film.
10. Drying. 45 minutes to 2 hours. Carry film to proper drying cabinet in a tray.
Be sure to turn off the fan in the cabinet before opening door. Carefully hang the film to dry with a weight on the bottom. Try to avoid getting water on other peoples hanging film. Come back for your film when it is dry. Leaving film longer than the drying time ties up space and leaves your neg's exposed to getting damaged.
11. Clean room and tank and reels and tray etc., with hot water. Dry all equipment with compressed air or paper towels, not with a dirty towel. This will prevent contamination for next person using equipment.

REMEMBER DURING PROCESSING, TRY TO KEEP ALL OF YOUR SOLUTIONS, RINSES, AND WASHES AS CLOSE AS POSSIBLE TO 70° F. CONSISTENCY IS IMPORTANT AND WILL PAY OFF WITH GOOD NEGATIVES!

1. Wear protective Lab Coats.
2. Disposable Blue Nitrile Latex Gloves.
3. Goggles!