

How to develop film by hand in a plastic tank:

ITEMS YOU WILL NEED: Bottle Opener, Scissors, Complete Hand Developing Tank, Thermometer, Drying Clips

CHEMICALS YOU WILL NEED: Sprint film Developer, Speed Fixer, Fixer Remover, Kodak Photoflo (wetting agent)

STEPS TO DEVELOP FILM:

1 MIX YOUR SOLUTIONS. 68 Degrees Fahrenheit is the ideal temperature, but other temperatures can be used.

Sprint Film Developer is diluted 1 part to 9 parts water. (always mixed fresh each session then discard)

Sprint Speed Fixer is diluted 2 parts to 8 parts water. (always pre-mixed stock solution, use & SAVE.

Sprint Fixer Remover is diluted 1 part to 9 parts water. (always pre-mixed stock solution, use & SAVE.

Kodak Photoflo is diluted 2/3 Oz. per gallon of water. (always pre-mixed stock solution use then discard)

2 DETERMINE DEVELOPING TIME. Use time designated by developer manufacturer as a starting point. Note that cutting or adding 20% increments of developing time equals compressing or expanding the highlight end of the scale by about 1 stop per 20% change.

3 PLACE FILM, SCISSORS, CAN OPENER AND COMPLETE HAND DEVELOPING TANK IN CHANGING BAG BEFORE YOU OPEN FILM CANISTER. Film is sensitive to any kind of light. If you mistakenly forget this step, your exposures will be ruined.

4 LOAD FILM ON TO REELS. Use can opener to pry open film cassette. Trim leader with scissors. "Walk" film onto reels. Place reels on spool. Place spool with reels in tank with retaining ring on bottom and screw on the top. Check if the top is correctly seated on the film tank by feeling if the outside top edges are parallel. The remainder of the process can be carried out in room light.

5 POUR DEVELOPER INTO THE TANK. Agitate by turning key for the first 30 sec. and for 5 sec. every 30 sec. thereafter if your developing time is under 8 minutes, and agitate for 10 sec. every minute if your developing time is over 8 minutes. 10 seconds before the end of your developing time, drain developer completely into sink.

6 POUR SPEED FIXER INTO THE TANK. Agitate for 15 sec. then let sit for 15 sec. alternately for 4 minutes. Pour back into stock container, making sure that rolls developed are tallied. Drain completely. Check with the manufacturer's instructions to see how many rolls you can fix with the amount of stock solution you have made.

7 POUR FIXER REMOVER INTO THE TANK. Agitate for 1 minute, then pour back into stock container.

8 WASH FILM. Run cold water at tap temperature in tank for 5 minutes. Empty tank once every minute.

9 POUR IN PHOTOFLO. Spin reels in stock solution for 30 sec. then drain completely. Shake excess liquid from film. Drain completely into sink, pass on to another classmate but don't return to stock container.

10 HANG DRY FILM. Weight film bottom. Leave 8 hours to dry and cure or 20 minutes in Film Drying cabinet.

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THE RELATION OF DEVELOPMENT TIME TO WATER TEMPERATURE

60° 63° 65° 68° 70° 73° 75° 78°

TIMES IN MINUTES

5	4½	4	3½				
5¾	5	4½	4	3¾			
6¼	5¾	5	4½	4	3¾		
7	6¼	5¾	5	4½	4	3¾	
7¾	7	6¼	5½	5	4½	4	3½
8½	7¾	7	6	5½	4¾	4½	3¾
9	8	7½	6½	6	5	4¾	4
10	8¾	8	7	6½	5½	5	4½
10½	9½	8½	7½	6¾	6	5½	4¾
11¼	10	9	8	7½	6½	5¾	5
11¾	10½	9½	8½	7¾	6¾	6	5¼
12¾	11	10	9	8¼	7¼	6¾	5¾
13½	11¾	10¾	9½	8¾	7½	7	6
14¼	12½	11½	10	9¼	8	7½	6¼
15	13	12	10½	9¾	8½	7¾	6½
16	13¾	12½	11	10	9	8	7
16½	14¼	13	11½	10½	9	8½	7¼
17¼	15¼	14	12	11	9¾	9	7½