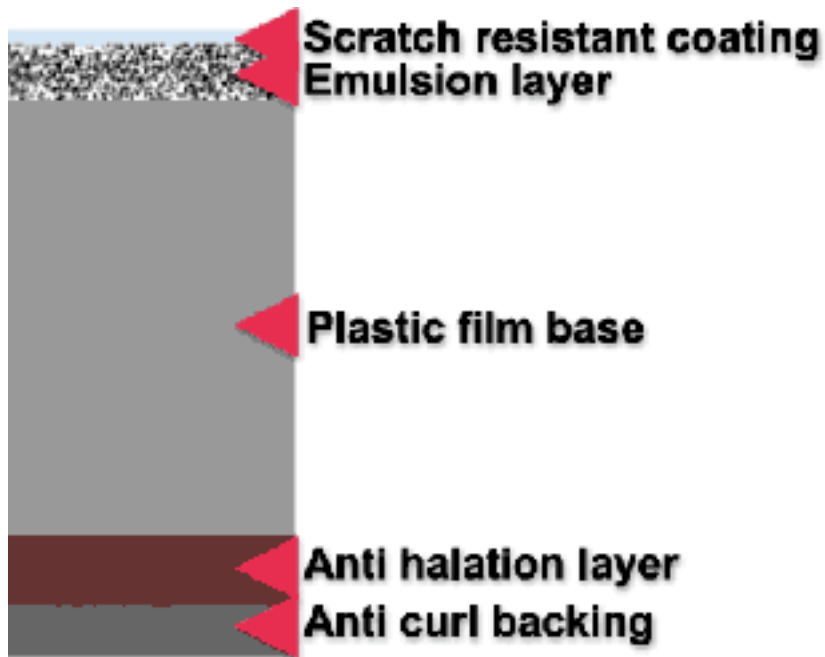


Processing Film

How do I develop and fix the **latent image** on my film so I can make prints?

By Marcine Linder

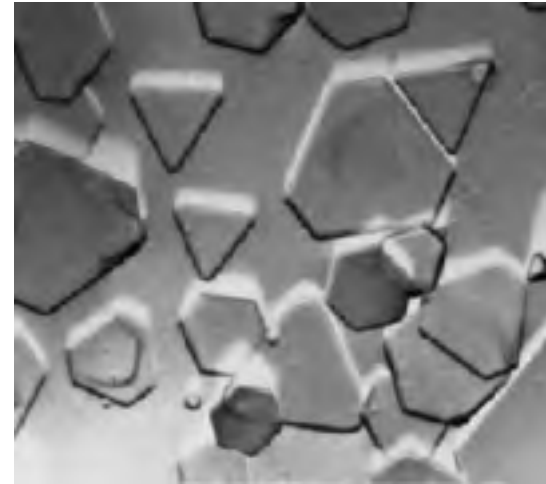
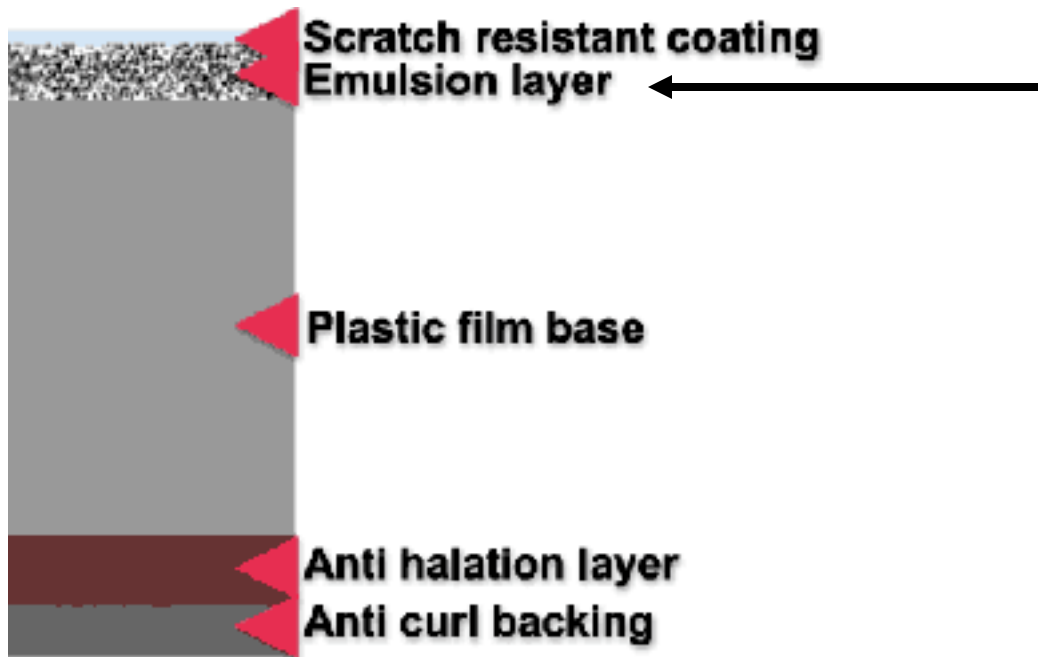
The Structure of Film



The **emulsion layer** of black and white film has light-sensitive silver halide crystals. This is where the image forms

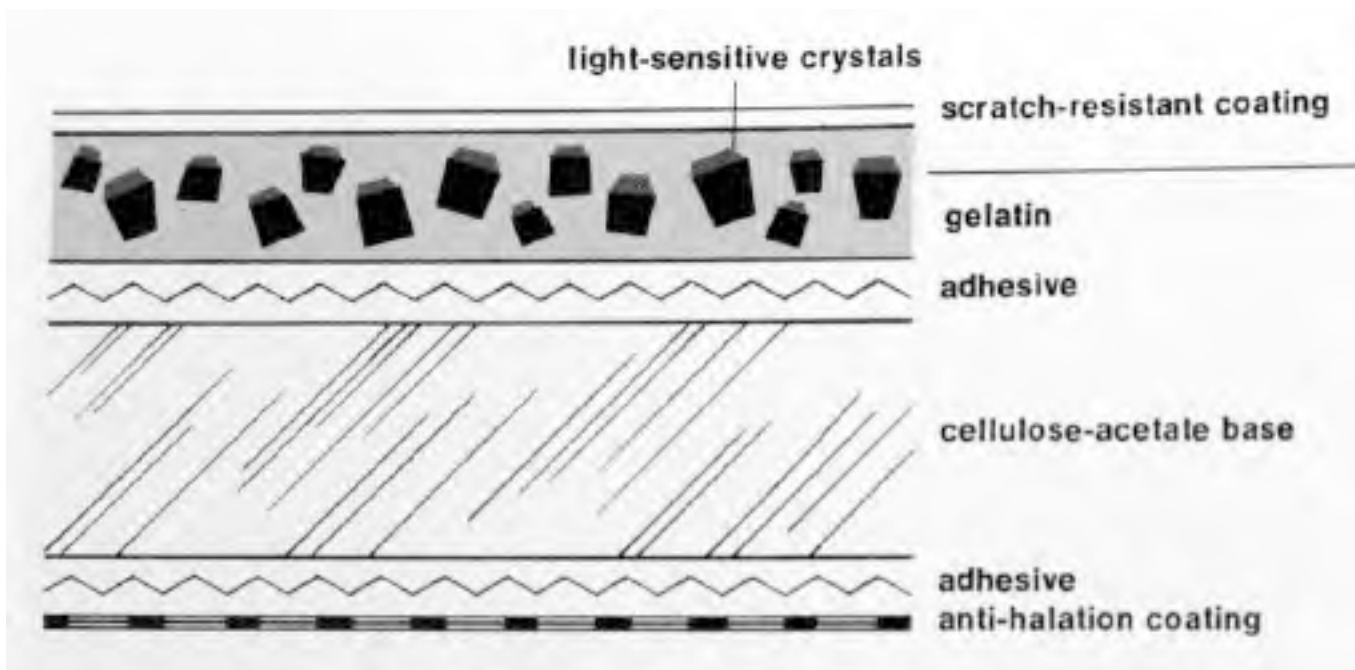
The **anti halation layer** prevents halos from forming on the image from light refraction and reflection

The Structure of Film



Highly magnified
silver halide
crystals in a black
and white film
emulsion

The Structure of Film



ISO/ASA 32 film speed



ISO/ASA 400 film speed



ISO/ASA 1000 film speed



Basic Film Processing

When film is exposed to light, a **latent** image is created. This means the image exists on the film but it is invisible.

If it were possible to look at the film without **fogging** it (light exposure, almost always unwanted, often from **light leaks** from a camera or film canister that is not properly sealed from light that ruins the latent image created by the camera) the latent image would be invisible.



Bands of Fog

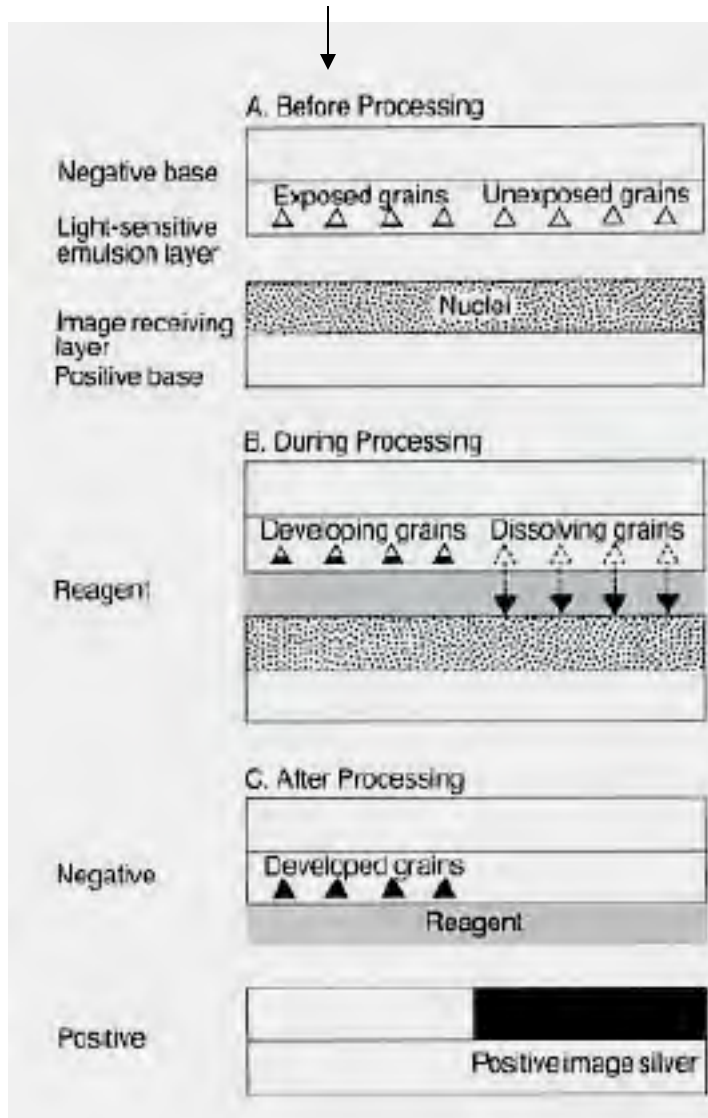


Film End

Examples of
fogged film after
developing

How film works

This side exposed



When film is exposed a **latent image** is created which is invisible

When the film is in the **developing solution**, the exposed **silver halide crystals** turn black while the unexposed areas do not change. When the film is in the **fixing bath solution**, the unexposed silver crystals are dissolved and washed away leaving a clear area. The film is no longer sensitive to light

Developer Stop Bath and Fixer

Developer changes the exposed silver halide crystals to black creating the black/dark areas on the negative

Stop bath helps to wash away the developer on the film and lengthens the life of the fixer

Fixer permanently “fixes” the image on the film by removing the unexposed silver halide crystals (the negative is clear in these areas)

The negative cannot be exposed to light until it has been fixed properly (negatives that have not been fixed properly will fade to black and the images on them will disappear)

Equipment and Chemistry List

Equipment

light tight changing bag
graduated cylinder
funnel
thermometer
scissors
processing tank
agitator
film reels
light tight bottles
timer
clothes pegs/clips
Film drying cabinet

Chemistry

Developer
Stop bath
Fixer
photo flo (optional)



light tight changing bag



Graduated cylinders



Film reel



Film developing tank, cover, agitator, lid, etc.



can opener



timer



Scissors



clothes pegs/clips



funnel



Thermometer



developer



Stop bath



fixer

How to Process B&W film

Watch video at

http://www.youtube.com/watch?v=n2QSK8KhDds&feature=player_embedded#

Which demonstrates the process

How to Process B&W film: preparing your equipment

- 1) Put everything you need in the light proof changing bag:
 - i. Film
 - ii. Can opener
 - iii. Scissors
 - iv. Processing tank (including the cover and center post for the reels)
 - v. Processing reel(s)

All activities that involve removing undeveloped film from the cannister and loading it into the developing tank **MUST** be done in total darkness or in a dark bag. **Do not expose undeveloped film to any form of light. Your entire roll of film will be void.**



Preparing/loading film in a light tight changing bag

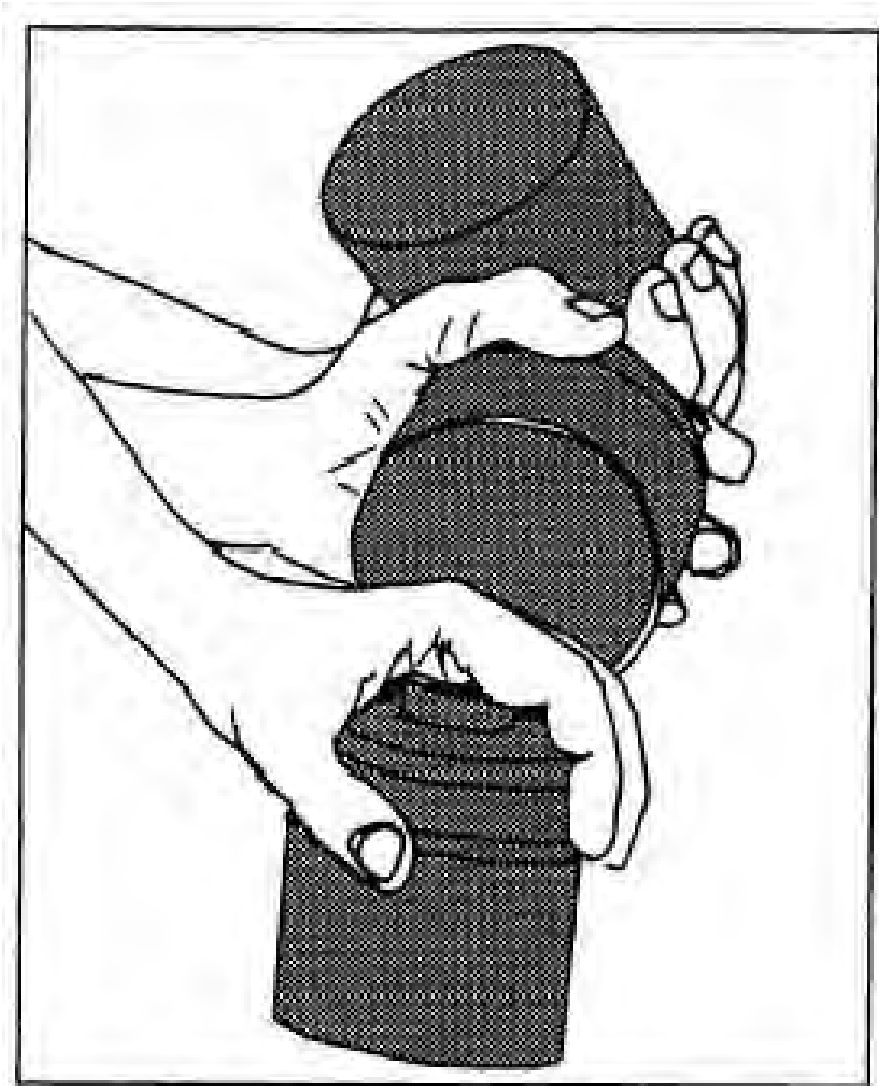


Preparing/loading film in a light tight changing bag



- 1) Open the film canister and remove the film
- 2) load the film onto the plastic reel, put the reel inside the processing tank and close the light tight cover
- 3) It is now safe to open up the changing bag and remove the tank and other materials

Processing the Film: Chemical stage



- 1) Prepare the developer solution (correct dilution and temperature)
- 2) Pour the solution into the tank
- 3) Agitate the tank for 10 seconds, and then pause for 10 seconds and repeat for the prescribed developing time
- 4) Pour out the developer (can be used max 3x)
- 5) Repeat with stop bath and fixer bath

Processing the Film: Chemical stage



- 1) Rinse the film using running water for approx 15 minutes to remove chemical residue from film
- 2) Open up the reel and gently remove a bit of the film from it.
- 3) Inspect the film... is it 100% clear where it's supposed to be clear? If it's purple or dark, immediately return it to the reel and re-fix the film (it will fade to black if you don't)
- 4) Hang the film to dry (put a weight on the bottom of the film so it dries straight, not curled)

