



INFRARED PHOTOGRAPHY

Infrared photography is the recording of images formed by infrared radiation. Because infrared radiation is invisible, some special techniques may be needed. But, in general, most of the commonly required methods are as simple as those of ordinary photography.

Uses In Law Enforcement

1. Questioned documents.
2. Aerial photography.
 - a. Infrared photography can enhance the contrast of the terrain.
 - b. Coniferous (darker) and deciduous (lighter) growth is differentiated.
3. Surveillance photography.
4. Detection of gunshot-powder burns, stains and irregularities in cloth.
5. Detection of certain types of secret writings.

Equipment

1. Camera
 - a. Almost any camera. The 35mm camera is most convenient in most cases.
2. Lenses
 - a. Most good lenses can be used in infrared photography.
 - b. It is helpful if the lens has an infrared focusing scale.

Film

1. Black-and-White Infrared Film
 - a. Records infrared luminescence from subjects.
 - b. Requires an infrared filter on the camera lens. Try a Kodak Wratten Filter #87.
2. Color Infrared Film
 - a. Not usually a good choice for law enforcement use. Color infrared film is a "false color" film. It is sensitive to blue radiation in all its film layers so a yellow filter must be used to filter out the blue.
 - b. Color infrared film can be used to emphasize differences between objects that are visually quite similar. Color infrared-sensitive films emphasize differences in infrared reflectance.
3. Loading Film
 - a. Infrared film is sensitive to heat and should be refrigerated. Allow sufficient time for the film to reach room temperature before opening the package.
 - b. Kodak High Speed Infrared Film must be loaded and unloaded in total darkness because the felt-lined slots of the magazines are not "light-tight" to infrared. Both exposed and unexposed film can be safely stored in the sealed film container.

Lighting

1. Use tungsten lamps or electronic flash units for black-and-white infrared photography.
2. Use electronic flash illumination for color infrared photography. Other light sources (except daylight) require special filtering.

Exposure

1. Exposure is determined by test shots.
2. Using Kodak High Speed Infrared Film with a Kodak Wratten Filter #87, try an ISO 25 for daylight and an ISO 64 for tungsten lighting.

Focusing

1. Focus in a normal manner without the filter in place.
2. The distance that appears opposite the normal index mark on the lens should then be moved to the red (infrared) index mark. This will usually result in a lengthening of the lens.
3. Replace the filter for the exposure.

References

1. Kodak Applied Infrared Photography, 1981 (M-28)
2. Kodak Using Photography to Preserve Evidence, 1982 (M-2)
3. Kodak Photographic Surveillance Techniques for Law Enforcement Agencies, 1976 (M-8)

[Back to Iowa I.A.I. Homepage](#)