

Fingerprinting

Fingerprints left at a scene can be classified into three types. They can be visible because the fingers that made them were covered in paint, ink, blood, etc. The fingerprints may be visible because they were made in a soft material such as putty or clay. Or the prints may not be visible. We call invisible prints latent prints. To be useful, the prints must be visible and there must be a way of recording the prints. Today that also means getting a digital record of the print so that it can be compared in the AFIS (Automated Fingerprint Identification System). Photographs are also an excellent method of obtaining a permanent record of the print. That way the photographs can be presented as evidence in a court of law.

Obtaining permanent records of the first two types of prints are not a problem. With today's digital cameras, it is possible to get both a digital record and a photograph for use in a courtroom at the same time. It is the third type of fingerprints that are the most difficult to obtain. There are new methods of lifting latent fingerprints being developed all of the time. The Web Page for fingerprinting gives a link to one of the best resources I have seen on deciding what type of latent print lifting method to use depending on the surface, the size of the surface that the print is on, and the value of the surface and whether or not it can be destroyed in the fingerprint lifting process. The site also gives the chemical basis for the lifting.

Lifting fingerprints is based on the principle that we have sweat glands in the friction ridges of the fingers. These secrete mostly water, but some body salts and some oils as well. These can attract some types of particles such as the fine powders used in dusting or Iodine or Superglue. These other particles that are attracted to the residue left from the fingers can then be photographed.