

Minutiae - ridge characteristics



- | | | | |
|--------------------|--|--------------------------------|--|
| ridge ending | | bridge | |
| bifurcation (fork) | | double bifurcation | |
| dot | | trifurcation | |
| island | | delta | |
| enclosure | | core - center of a fingerprint | |
| hook (spur) | | | |

Crime - Scene Fingerprints

3 kinds of fingerprints

- (1) Visible (patent) prints - prints made in a visible material, such as blood, paint, etc.
 - (a) easy to find
 - (b) captured using high-resolution photography
- (2) Plastic prints - prints pressed into a soft surface, 3-D. Found in mud or clay
- (3) Latent (hidden) prints - made by depositing oils &/or perspiration & is invisible to the naked eye.
 - (a) Fingerprint powders
 - (1) used on nonporous surfaces
 - (2) lightly apply w/brush & powder adheres to oil/sweat residue in print
 - a) black powder (carbon) - used on light surfaces
 - b) gray powder (aluminum) - used on dark surfaces, mirrors, & metals.
 - c) fluorescent powders (many colors) & fluoresce under UV (black) light
 - d) magnetic powder - useful on finished leather or rough plastics
 - (b) Superglue Fuming (cyanoacrylate) - used for soft or porous surfaces, like paper, cardboard, or cloth, metals
 - (c) Iodine Fuming - oldest method, iodine solids sublime (turn from solid to gas w/o being a liquid), react w/print turning it brown. Not permanent.
 - (d) Ninhydrin - chemical developer, spray the print & then add heat, turns print purple
 - (e) RUVIS - reflected ultraviolet imaging system
 - (1) use lasers or LEDs w/filters
 - (f) other
 - (1) dyes, DFO - fluoresces print, Amido Black in blue-green light (skin)