ForensiKit

Printing with Magnetic Powder

Latent Fingerprinting Practice

Every surface offers its own challenge, and each surface requires a unique latent print processing method.

We provided four surfaces for you to experiment with—glass, paper, primed wood, and unpainted wood.

1. Prepare a work surface by covering a flat area with a plastic trash bag or small tarp.
2. Add a fingerprint to each of the four surfaces. Don't press overly hard but firmly touch the surface with your fingerpad.
3. Put on your mask and gloves.
4. Dust each surface with the magnetic powder to see if you can develop an identifiable fingerprint. See the Processing Procedure directions included in your ForensiKit.

Were you able to develop a print on all four surfaces? (*Spoiler*: Probably not. Check the other side of this page to find out why.)

If you want to practice collecting the prints you developed, follow the Preservation Procedure directions included in your ForensiKit.

Want more Magnetic Fingerprinting activities?
Visit https://forensikit.com/magnetic-powder/

Crime Scene Fingerprint Challenge

After you practice lifting prints, have someone help you with this fingerprint challenge.

1. Get five plastic party cups or other cups made of plastic, glass, or ceramic that you can throw away when you're done. ***Don't*** use your home dinnerware.
    - ***Never*** eat or drink out of anything you've dusted with fingerprint powder.
2. Ask your challenger to handle each of the five cups but leave only one fingerprint on each item.
    - The challenger is not allowed to use gloves or tools when handling the items.
    - The challenger should write down the location of each print they deliberately left to authenticate the results at the end.
3. As a latent fingerprint examiner, your job is to find the latent prints left behind on the cups.

Scoring

- You get 10 points for each deliberate fingerprint you find.
- You get 15 points for each accidental full or partial fingerprint you find.
- Your challenger gets 20 points for each cup that you were unable to find any fingerprints on.

Did you know?

Fingerprint dusting is the application of finely ground powder to a nonporous surface to make latent prints visible.

Magnetic fingerprint powder is made up of iron filings wrapped with a colorant. The iron filings work with the magnet, and the colorant enhances their visibility.

Crime scene technicians choose magnetic powder for a variety of reasons including the type of surface and how delicate the print is.

Smooth Surfaces

Regular fingerprint powder has a high surface tension and is especially sticky. When it's applied to a smooth surface like plastic or glossy paper, it's likely to stick to the background as well as the oily latent print.

For smooth surfaces, crime scene techs turn to magnetic powder because it's more likely to stick only to the oily latent print. After dusting a print with magnetic powder, you can shake off the dusted item, and the excess powder will drop away.

Lightly Textured Surfaces

Magnetic powder also works better on lightly textured surfaces like imitation leather where regular powder would accumulate in the grooves of the texturing, making it impossible to develop a usable latent print.

Delicate Prints

When a print is delicate, brushing it with even the softest fingerprint brush could damage the print and render it unidentifiable.

That's when crime scene techs opt for magnetic powder instead because only the powder itself ever touches the print. The magnetic applicator wand never comes into contact with the surface.

Metal Surfaces

Because of its magnetic properties, magnetic fingerprint powder is generally not a good choice for use on surfaces that already attract magnets like steel, nickel, and other metals.

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