

TENNESSEE BUREAU OF INVESTIGATION
Forensic Services Division

Violent Crime Response Team Standard Operating Procedures
Latent Print Powder and Latent Lifts



10. VCRT Procedures

10.10 Latent Print Powder and Latent Lifts

10.10.1 Scope

Powdering is the application of finely ground, colored powder to non-porous and semi-porous objects to make latent prints visible. The dusting powder method is used to develop latent prints on evidence with non-porous or semi-porous surfaces. The powder adheres to oil, moisture, and other residues present in latent print deposits and can improve the contrast of a latent print. Black powder is the most commonly used powder, even on dark surfaces.

Latent Lifts are produced by placing clear lifting tape smoothly over latent print while avoiding air bubbles or wrinkles in tape. Then carefully removing the tape and powder and transferring them to a contrasting color card or paper.

10.10.2 Definitions

Refer to VCRT 11.0 Definitions and Abbreviations

10.10.3 Reagents

Black Carbon Powder
Magnetic Powder
Fluorescent Powder (various colors)
White powder

All powders are purchased commercially

10.10.4 Equipment and Supplies

Beaker or Cup
Filament brush
Magnetic Wand
Alternate Light Source
Goggles
Latent Print Developing Mitt
Clear Tape
Card or Paper

10.10.5 Precautions

Powders should not be exposed to excessive humidity or moisture.

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Samples for DNA testing should be collected prior to the dusting procedure. Brushes and powders may cause DNA contamination as they are often used multiple times on many items before being discarded.

Magnetic powder is not recommended for use on metallic surfaces.

10.10.6 Test Procedure

Controls

One or more latent prints are placed on a non-evidence item. Powder is applied to the item for ridge detail development to determine if adequate results are achieved.

A positive result occurs with the development of friction ridges.

A negative result occurs when no ridge detail develops after application.

A control must be successfully performed before applying powder to evidence. This control must be documented in the notes.

Black Powder

By visual examination, determine if any latent prints are present and need to be photographed before applying powder.

1. Pour dusting powder into a container large enough to fit a brush, such as a beaker.
2. Place brush into powder.
3. Shake excess powder off of brush.
4. Apply powder to evidence by rotating the brush back and forth over the evidence.
5. Monitor the development of the ridges and stop applying powder when the latent print reaches the best clarity. If the print stops developing, begins to fade, or over-develops, stop applying powder.

Fluorescent Powder

By visual examination, determine if any latent prints are present and need to be photographed before applying powder.

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1. The procedure for fluorescent powder is the same as described above for black powder.
2. Once the powder is applied, examine the evidence with the alternate light source at the recommended wavelength with an appropriate filter.
3. Care should be taken to not over apply the powder.

Magnetic Powder

By visual examination, determine if any latent prints are present and need to be photographed before applying powder.

1. Place the magna brush wand into the container of magnetic powder. The magnet will attract the powder when the magnet is depressed. This will produce a bristle-like effect at the end of the wand when withdrawn.
2. Apply the powder in a circular motion, ensuring only the powder is touching the item.
3. Hold the wand over the container of powder and withdraw the control wand to release the powder.

Latent Print Development Mitt

By visual examination, determine if any latent prints are present and need to be photographed before applying powder.

1. A latent print development mitt may be used for processing large areas, such as a vehicle.
2. Powder is first applied to the white side of the mitt. Magnetic powders are not recommended for use with the mitt.
3. Using light pressure, the mitt is then used to dust the surface of the item as per manufacturer's instructions.
4. A latent print development mitt is intended for one-time use and shall be disposed of after use.

10.10.7 Lifting Prints

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Lift latent prints by placing clear lifting tape smoothly over latent print while avoiding air bubbles or wrinkles in tape.

Lift tape off and place tape smoothly onto a card or paper of a color that achieves the best contrast (i.e. black powder lift placed on a white card).

Label lifts appropriately with:

- Initials of person taking lift
- Marker number or other Identifier
- Date
- Number of lift (i.e., 1st Lift, 2nd Lift, etc)
- Description of item from which the lift was taken
- Location on the item from which the lift was taken
- Sketch of the area lifted
- Direction of orientation

Repeat dusting and lifting process as many times as is necessary.

10.10.8 Interpretation of Results

The results of this test will be recorded in the VCRT member's notes.

Latent prints of comparable value should be marked and photographed with a ruler included. Refer to VCRT 10.34 Comparison Photography for additional information.