



Latent Prints
Fingerprint Powder Processing



1. Processing non-porous and semi-porous evidence using fingerprint powders

1.1 Scope

1.1.1 This document details the procedure for the use of latent print powders on non-porous and semi-porous forensic materials by the Latent Print Section of the Houston Forensic Science Center (HFSC).

1.2 Equipment, Materials, and Reagents

1.2.1 Powders: Regular/Nonmagnetic powders, Magnetic powders, Fluorescent powders, and Dual Contrast powders

1.2.2 Applicators: Magnetic applicators, Camel hair brushes, Fiberglass brushes, and Feather brushes

1.3 Safety

1.3.1 Examiners/Technicians shall wear appropriate personal protective equipment (PPE) while using fingerprint powders.

1.3.2 Fume hood use is required when applying fingerprint powders.

1.3.3 See applicable SDS.

1.4 QA/QC

1.4.1 Not required for fingerprint powder processing.

1.5 Procedure

1.5.1 Processing evidence using regular, non-magnetic powders.

1.5.1.1 The color of the fingerprint powder should contrast with the substrate.

1.5.1.2 Pour needed amount of powder into a small pile.

1.5.1.3 Dip brush bristle tips into powder and tap off excess powder.

1.5.1.4 Apply a small amount of powder onto the surface and begin to lightly brush.

1.5.1.5 Brush in the direction of any ridges that appear. Build powder onto ridges until enough clarity in the latent print is achieved.

1.5.1.6 Excess powder can be lightly brushed away using a camel hair brush, taking care to brush with the flow of the ridges.

1.5.1.7 When fluorescent powders are used, ridge detail should be viewed using an ALS and/or a LASER.

1.5.1.8 Any impressions developed must be captured digitally. Latent prints may be lifted if desired, as long as the latent has been captured digitally.

1.5.2 Processing evidence using magnetic powders.

1.5.2.1 The color of the fingerprint powder should contrast with the substrate.

1.5.2.2 Place magnetic wand into the magnetic powder with the magnet engaged. This will produce a bristle like effect as the metal is attracted to the magnet.

1.5.2.3 Apply magnetic bristle in a circular motion, ensuring powder touches the surface and the tip of the wand does not.



- 1.5.2.4 Upon completion of development, release excess powder back into the container by disengaging the magnet.
- 1.5.2.5 Engage magnet on clean wand and pass over developed print to remove/collect excess magnetic powder.
- 1.5.2.6 When fluorescent powders are used, ridge detail should be viewed using an ALS and/or a LASER.
- 1.5.2.7 Any impressions developed must be captured digitally. Latent prints may be lifted if desired, as long as the latent has been captured digitally.

1.6 Records/Results

- 1.6.1 Processes used are documented in the case examiner's/technician's case notes via the Laboratory Information Management System (LIMS).

1.7 References

Defense Forensic Science Center, *CILA LP 52.4, Fingerprint Powder Processing*, 21 January 2014

Sodhi, G. S. and Kaur, J., "Powder Method for Detecting Latent Fingerprints: A Review," *Forensic Science International*, 120(3), p. 172, 2001.

Trozzi, T. A., Schwartz, R. L., and Hollars, M. L., *Processing Guide for Developing Latent Prints*, FBI Laboratory, Washington DC, 2001.