

TENNESSEE BUREAU OF INVESTIGATION
Forensic Services Division

Violent Crime Response Team Standard Operating Procedures
Electrostatic Lifter



10. VCRT Procedures

10.13 Electrostatic Dust Print Lifter

10.13.1 Scope

Electrostatic lifting attracts the particles to a dry surface using an electrical charge. Electrostatic lifting may be used on smooth floors, doors or walls where footwear impressions in dust are present.

Electrostatic lifts often yield prints with greater detail than can be captured photographically. Electrostatic lifted impressions may provide additional detail and the dark Mylar background may increase contrast.

10.13.2 Definitions

Refer to VCRT 11.0 Definitions and Abbreviations

10.13.3 Chemicals and Reagents

None

10.13.4 Equipment and Supplies

High voltage power supply
Charging unit
High voltage probe
Ground leads
Smoothing roller
Ground plate
Mylar lifting film

10.13.5 Procedure

Comparison photographs should be made before Electrostatic Dust Lifting is attempted. See VCRT 10.34 Comparison Photography for additional information.

Cut a clean piece of two-ply film large enough to cover the dust print allowing excess in all directions.

Place the Mylar with the black side toward the dust impression

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Note - On horizontal surfaces, the film is placed directly over the print.
On vertical surfaces, the film can be positioned and held in place by
taping to the surface.

Attach the probe and ground wire to the base unit.

Attach the ground to a metal surface (the latch on the carrying case).

Turn the unit on and touch the Mylar with the probe. The film should be pulled
tightly against the impression surface. A metal plate can be placed very close
next to the Mylar to help conductivity.

Gently use the roller to smooth out any air bubbles that have been captured
under the Mylar.

Turn off the unit and touch the probe to a metal surface.

Lift the Mylar and secure it with tape to the bottom of a box with dust side up.

In the event of excessive extraneous dust attracted by the first lift, a second lift
may yield a more detail.