

Purpose: To recover imprints in dust or residue from suspect items.

Responsibility: Individuals authorized to conduct casework in the discipline.

Safety: All proper personal protection equipment will be used as appropriate. Precautions should be taken when using the Electrostatic Lifting Device and the Electrostatic Detection Apparatus due to the potential for electrical shock. The examiner should avoid touching the metal electrical contacts on the Electrostatic Lifting Device and the corona wire on the Electrostatic Detection Apparatus when the devices are in use.

Procedure:

Materials:

1. Electrostatic lifting device
2. Grounding material
3. Lifting film
4. Oblique lighting source
5. Large transparent adhesive lifters
6. Large white backed adhesive lifters
7. Large black backed adhesive lifters
8. Large transparent gelatin lifters
9. Large white backed gelatin lifters
10. Large black backed gelatin lifters
11. Electrostatic Detection Apparatus (ESDA)

Procedures:

Note: No lifts (adhesive or gel) will be conducted on items that also need DNA analysis until discussing best approach for collection.

1. Examine area using an oblique light source to identify location(s) of any visible dust, residue, or indented imprint(s).
2. Determine which area(s) are to be processed with an electrostatic lifting device or adhesive/gel lifters, or ESDA.
3. Photograph area(s) where lifts are to be conducted.
4. When using the electrostatic lifting device, place lifting film – black side down – on top of surface where imprint(s) are to be lifted, set up appropriate ground device, and continue with electrostatic lift procedure(s) following the instructions in the manual.

Note: Electrostatic lifts are fragile and impressions can be destroyed by any wiping action across the surface of the lift. Electrostatic lifts retain a charge and care should be taken in packaging. Smaller lifts can be stored in individual clean dust free containers (e.g., file folders, clean boxes, etc.). These containers should never be reused. Larger lifts can be stored by carefully rolling the non-lifting surface on the outside. After rolling, the edge can be secured with a small piece of tape.

5. When using adhesive or gel lifters, remove the cover from the lifter, place the lifter over the imprint, use your hands or a roller to ensure that the lifter contacts the entire imprint, and remove lifter.

Note: Gelatin lifters may stretch when the clear cover is removed. Care should be taken when removing the cover to limit the stretch. The lifter should be allowed to rest until it returns to the original size, before applied to the impression.

After photographing the lift place the cover back over the imprint.

Note: When replacing the clear cover on a gelatin lifter, place the clean side of the clear cover in contact with the gelatin lift, or use a new acetate cover. The side previously in contact with the gel lift should not be replaced on the impression to prevent re-deposition of the residue.

6. The following procedure shall be used for the Electrostatic Detection Apparatus (ESDA):

Determine whether the item is suitable for ESDA examination. The size, shape, density or condition of an item may make it unsuitable for the ESDA procedure (for example, some book covers, large file folders and items that have been wet or damaged after indentations were made).

Certain items submitted for examination may have inherent limitations that can interfere with the procedures in this standard. Limitations should be noted and recorded on the QR-IM1 worksheet and/or in the case notes.

The results of prior storage, handling, and/or chemical testing for latent prints or impressions may interfere with the ESDA results. Indentation examinations should be conducted prior to any chemical processing.

Items should be handled appropriately to avoid compromising subsequent examinations (for example, with clean gloves).

The ESDA shall be operated and maintained utilizing the instructions provided in the operating manual. Damaged ESDA equipment shall be taken out of service pending repair and re-validated before use.

Prior to beginning the ESDA process, the unit will be checked to ensure that it is operating correctly. Check the condition of the cascade toner beads if they are to be utilized in the ESDA examination. They can deteriorate with use, affecting the quality of the developed ESDA image.

The ESDA will be checked twice a year using a control test. This control will consist of a piece of paper that has a footwear impression placed on it. The control is considered positive when the footwear impression is visualized on the paper. If the control indentation is not successfully visualized, the problem shall be corrected before any further indentation examinations are conducted with the ESDA.

The result of this control check will be recorded in the log book located in the Imprints Unit.

Pre-treat documents in a humidifier chamber for approximately 2 minutes prior to processing with ESDA. Record humidity level on the QR-IM1 worksheet and/or in the case notes. Distilled water shall be utilized in the humidifier chamber.

Process subject document(s) on the ESDA according to manufacturer's recommended procedures. If indented markings/impressions of value are noted, a plastic overlay lift may be made. If indented markings/impressions of no value are noted (i.e. consistent with writing on evidence packaging), these indentations/impressions may be documented with photography and a note may be placed in the QR-IM1 worksheet and/or in the case notes.

It should be noted that repeated processing with the ESDA can lead to the development of degraded images.

7. Photograph, scan, and/or photocopy lifted imprint(s).
8. Secure lifts in proper container.
9. Mark container with appropriate identification markings, including case number, item number and description.

10. Sub-itemize the lift(s) in JusticeTrax and place a barcode on the evidence container. Lifts will be returned to the submitting agency.

Results:

Permanent record of dust, residue, or indented imprint(s).

Sources of Error: N/A

Quality Assurance: N/A

References: See bibliography.

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