

Impressions on Hard or Two-Dimensional Surfaces

Name of Procedure:

Preservation of Footwear/Tire Tread Impressions on Hard or Two-Dimensional Surfaces.

Suggested Uses:

This procedure is used in the preservation of questioned footwear/tire track impressions to utilize in comparison with known footwear/tire track impressions.

Equipment Needed to Perform Procedures:

A - Scales (for determining correct size in photographs)

B - Fingerprint powder

C - Cotton batting or a fingerprint brush

D - Camera equipment with proper lighting

E- Residue fingerprint roller

Chemicals Needed For Preparation of Chemical Solution(s):

Not Applicable

Formula/Directions for Preparation of Chemical Solution(s):

Not Applicable

Processing Procedures for Application to Item(s) of Evidence:

There are two (2) types of hard surface or two-dimensional impressions. All questioned hard surface impressions or two-dimensional footwear/tire track impressions are always photographed prior to any other type of preservation method. If the item can be placed on the hard copy board of the TC III camera, it should be photographed accordingly. When the item is too bulky for this type of photography, use a 35 mm camera to record the image (See Photographic equipment).

1. Dust impressions occur when a shoe or tire comes in contact with a surface heavily coated with loose material such as dust or dirt. The shoe or tire will strike the surface and the dust or dirt will cling to the sole or tread and a negative impression of the shoe or tire will remain.

Impressions on Hard or Two-Dimensional Surfaces

2. Residue impressions occur as a result of residue being deposited from the shoe or tire to a surface. This will include impressions made by the transfer of ordinary residue, which shoes accumulate, or impressions made after stepping in blood, grease or other fluids.

Residue Impressions:

1. Identify the impression that will be lifted and obtain a piece of lifting material that will easily cover the entire impression.
2. Peel the protective backing from the adhesive sheet of the residue lifters.
3. Position the adhesive sheet over the end of the impressions to ensure that the entire impression is covered with the lifting material.
4. Touch the end of the adhesive sheet to the surface to provide an anchor. There should be no contact with the impression and it should only touch the adjacent surface.
5. Utilizing a clean fingerprint roller (do not use fingers), run the roller over the length of the adhesive sheet causing it to lay across and adhere to the full impression.
6. Using the roller, roll over the remaining portion of the sheet ensuring that it will fully adhered to the surface.
7. Carefully pick up the end of the adhesive sheet and lift it off the impression and lay it on a clean surface with the impression side up.
8. Apply the clear protective sheet from end to end using the roller in the same manner as described in steps #3 through #6. The result should be free of air bubbles.

Note: In some impressions, a sufficient amount of detail in the impression may not transfer to the lifting medium. Most impressions in blood, oil or other fluids (even in a dry stage) are fixed too well to the surface to adequately be lifted with any lift materials. In this case, photography is the only method to preserve the impressions.

Note: It is important to date, initial and label the impression to identify the source for future reference.

Dust Impressions:

1. If the area to be dusted is large, a small amount of fingerprint powder is poured onto the cotton batting. The cotton batting is then lightly brushed over the area as if dusting for

Impressions on Hard or Two-Dimensional Surfaces

latent fingerprints

2. If the area to be dusted is small, a fingerprint brush can be dipped into the fingerprint powder and used to lightly dust the area in the same manner as if dusting for latent fingerprints.
3. Once the footwear/tire track impression has been developed, it should be photographed using direct lighting prior to any attempts to lift.

Note: Some residue impressions can be enhanced for lifting by dusting them with latent fingerprint powder. Dust impressions should never be dusted with latent fingerprint powder as this will likely destroy the impression.

Steps to Preserve Developed Impressions:

The developed impressions may be preserved through photography with the appropriate techniques utilized (See Photographic Equipment/Procedures) or electronic recording (See Image Processing). See the above Processing Procedures for additional preservation information.

Safety Concerns:

Not Applicable

Storage and Location of Chemicals and Solutions:

Not Applicable

Shelf Life:

Not Applicable

Other Information:

Not Applicable