

# FOOTWEAR AND TIRE PRINT EVIDENCE







## Evidence impact

Prints of footwear (shoes, socks) and tires provide evidence for:

- identification of type of footwear or tire (pattern)
- tire prints: eventual type of vehicle
- comparison and identification of individual footwear or tire (marks/defect)
- reconstruction (activities, incident sequences)
- forensic intelligence (serial crime, mapping)

*Footwear print evidence is to be found at almost all scenes, often latent. The most critical evidence issue is to have this evidence preserved from the very first time of entering the scene.*

*Though tire prints are less frequent, their role should not be underestimated in cases where vehicles are involved. The following best practice also applies for glove prints.*



## Evidence assessment

### *General*

Search (use alternative light source):

- Outdoor: visible/latent evidence on entry/exit of scene, doorway, garden path, street, foot-path, soft ground
- Indoor: visible/latent evidence on floor, carpets, furniture, documents, fabrics

### *Visible prints on smooth surface (on floor, in dust)*

- Photograph (use side light)

- Measure and sketch
- Lift off with gel lifter or lifting tape

*Latent prints on smooth surface (hardwood, laminate, floor panel, plastic)*

- Dust with fingerprint powder
- Photograph
- Measure and sketch
- Lift off with gel lifter or lifting tape

*Marks in soft surface (soil, snow, plaster)*

- Photograph (use side light)
- Measure and sketch
- Remove loose large particles (glass, soil, plant, wood)
- Cast impression (dental stone)
- Snow: use snow-wax spray or fingerprint powder to enhance contrast for photographic record, then cast with flower of sulfur
- Sand: if necessary use hair fixing spray to solidify, then cast

*Marks on fabrics (carpets, clothing)*

- Photograph
- Lift off with electrostatic dust mark lifting kit

*Bloody marks*

- Photograph (use filter)
- Consider specialists' support for chemical enhancement

*Collection of shoes/tires for elimination prints*

- From casual persons
- From crime scene personnel

**Protect and preserve**

- Cordon off sufficiently large area
- Mark visible prints
- Outdoors: protect transient prints from rain, snow, etc.
- Indoors: protect zones of eventual latent prints

**Time factors**

- Outdoor prints may be compromised/washed away by weather
- Blood will change color when drying—eventually with loss of contrast

**Document**

- Take orthogonal pictures of prints before lift off/enhancement/casting
- Take orthogonal pictures of lift off/enhanced prints
- Eventually use 3D laser scanning

**Take notes**

- All evidence assessment activities
- Prints left by first responders/emergency services

- Preventive actions taken to protect evidence (use of shoe covers)
- Gait pattern



## Package carefully

- Electrostatic lifter: use appropriate container to prevent from contact
- Cast: use appropriate container to prevent from physical shock



## Attention

### *Do's*

- Consider sequence of methods to recover (DNA!)
- Tire prints: record full revolution, consider different wheel/pattern on same vehicle

### *Don'ts*

- Step in scene without checking for footwear/tire prints (use oblique lighting!)
- Clean hardened cast with brush



## Necessary tools

- Alternative light source
- Gel lifter, lifting tape
- Electrostatic dust mark lifting kit

- Dental stone/flower of sulfur kit
- 3D laser scanner



## Check for more evidence information

### *Part I*

- Break and entry: Volume crime evidence
- Explosion and arson: Safety risk evidence
- Fraud and forgery: Document evidence
- Hit and run: Automobile accident evidence
- Homicide and rape: Violent crime evidence

### *Part II*

- Documents
- Fabrics
- Vehicles

### *Part III*

- Biological/DNA evidence
- Explosion debris evidence
- Fingerprint evidence
- Fire debris evidence
- Glass evidence
- Soil and plant evidence