



INDIANA STATE POLICE LABORATORY DIVISION

PHYSICAL EVIDENCE BULLETIN

PAINT AND PLASTIC FRAGMENTS

INTRODUCTION: Paint is commonly encountered as physical evidence in crimes. Paint evidence may be found in many hit-run and burglary cases where it may prove to have evidentiary value. Plastic evidence may also be found in vehicular and other types of incidents.

I. TYPES OF CASES AND WHAT TO COLLECT FOR EACH

A. HIT AND RUN CASES

1. In hit and run cases, the following questioned items should be collected and submitted:
 - Any areas of transfer (paint chips, smears etc.) down to the substrate (metal on a car, wood on a pole, etc.) to insure all layers of paint or plastic are collected.
 - All areas of transfer - if there is more than one area of transfer collect these items separately and label where they came from.
 - Any paint, plastic, automotive parts, or other objects found on the ground which may help identify vehicle(s) involved.
 - Clothing from any pedestrian(s) struck by a vehicle - make sure to air dry the clothing before packaging.

2. Additionally, known standards **MUST** be collected and submitted for comparison purposes if they are available:
 - Known standards are from each painted or plastic object involved.
 - ✓ ***A known standard is paint or plastic collected from the area of impact that has not been contaminated by the transfer from the other object.***
 - The known standard should be collected down to the substrate and should be at least ¼" by ¼".
 - If more than one area of transfer is present, standards should be taken from all of these areas, packaged separately, and labeled as to where they came from.
 - If there are broken automotive parts located at the scene, broken pieces from the vehicle should be submitted as standards in order to try to match the pieces from the scene back to the vehicle.
 - Known standards should not be collected from rust spots on the vehicle unless that is the area of paint that may have been transferred.
3. **The submission of standards, when available, is critical in the successful analysis of this type of associative evidence.**

B. UNKNOWN SUSPECT HIT AND RUN CASES

1. When a hit and run occurs and there is no known suspect vehicle, paint analysis can still be a very useful tool.
2. The Indiana State Police Laboratory has a system called the Paint Database Query (PDQ), which can be used to help identify the make and model of an unknown vehicle.
3. Additionally, any automotive parts left at the scene may be useful in identifying the make and model of the unknown vehicle.
4. The following actions must be taken in this type of case:
 - Any questioned paint, plastic, or automotive part(s) found should be collected, packaged, labeled, and sent to the lab for analysis.
 - It should be noted that this case is a no suspect hit and run and that PDQ analysis is desired.
 - Known standards from any painted or plastic objects involved (the victim car, a pole, etc.) should be submitted.

C. BURGLARY CASES

1. In a burglary case, the following items should be collected and submitted:
 - Any tools which may have been used to gain entry to a building, vehicle, safe, or other object. These tools may have paint or other substances adhering to them from the object that was pried open.
 - Any areas that the tool may have contacted at the crime scene. Paint from the tool(s) may have transferred onto these areas.
2. Additionally, known standards **MUST** be collected and submitted for comparison purposes:
 - Known standards should be submitted from all painted objects and building materials involved:
 - ✓ ***A known standard is paint collected from the point of entry that has not been contaminated by contact with or transfer from the entry tool***
 - The known standard should be collected down to the substrate, and should be at least ¼" x ¼".
 - If more than one point of entry or other area of transfer is present, standards should be taken from all of these areas, packaged separately, and labeled as to their origins.
3. **The submission of standards, when available, is critical in the successful analysis of this type of associative evidence.**

II. COLLECTING AND PACKAGING EVIDENCE

A. COLLECTING EVIDENCE

1. Hit and Run Cases
 - To remove paint or plastic from a vehicle, a sharp metal blade (such as a sharp knife or scalpel) may be used.
 - Use the blade to cut straight down through the paint layers to the substrate and then run the blade across the substrate – use plenty of pressure – this method insures that all layers of the paint are collected.
 - It is acceptable to have portions of the substrate adhering to the paint layers.
 - Try to get samples that are at least ¼" x ¼".
 - Use a clean blade for each area sampled – clean the blade often to

avoid contaminated samples.

- Collect standards that are near area of impact but not contaminated by paint transfers.
- For some plastic items (such as signal lenses), the whole item may be submitted.
- For large items found at the scene of an incident, the whole item may be submitted.
- Any clothing or shoes from a hit and run victim should be carefully dried and wrapped in clean butcher paper to avoid loss of evidence.

An alternative method of collection for the standards is the use of a hole saw. Cut a piece of the damaged vehicle panel out with a minimum of a 1" hole saw. In cases where the damaged vehicle part is going to be completely replaced, the increased damage may not be of concern.

2. Burglary Cases

- Collect evidence so that any tool mark impressions are preserved for possible testing. The tool should not be placed into the impression at the scene.
- To remove paint from a point of entry, a sharp metal blade (such as a sharp knife or scalpel) is best used.
- Use the blade to cut straight down through the paint layers to the substrate and then run the blade across (or through) the substrate – use plenty of pressure – this method insures that all layers of the paint are collected.
- Also collect a sample of the substrate from the point of entry in the same manner
- Try to get samples at least ¼" by ¼".
- Use a clean blade for each area sampled – clean the blade often to avoid contaminated samples.
- Submit the whole tool that is suspected of being used in the burglary – wrap end with suspected paint transfer in clean paper to avoid loss of evidence.

B. PACKAGING EVIDENCE

1. Evidence should be packaged in a manner to preserve the integrity of the evidence and to avoid loss and contamination.

2. Small items (such as paint chips and building materials) should be wrapped in a paper bindle and placed into a pill box or glass vial – all openings should be completely sealed to avoid loss and/or contamination of evidence and the box or vial should be placed into a signature sealed plastic bag.
3. Large items (such as vehicle parts) may be placed in a signature sealed, size appropriate plastic or paper bag.
4. Large items that may cut or poke through a bag (such as a tire iron) should be placed into a signature sealed, size appropriate cardboard box.
5. All packaging should be marked with agency name, agency case number, item number and specific source of the sample (for example: R/F fender 1999 blue Ford Taurus, license #ABC123).

**For further information please contact the Indiana State Police Laboratory
Trace Analysis Unit at 1-866-855-2840 or 317-921-5300.**