

# PAINT AND OTHER PROTECTIVE COATINGS

Paint and polymers are typically found on either vehicles or architectural surfaces. These materials may be examined for color, chemical composition, and elemental composition to allow for either comparative associations or investigative leads.

## Significance

The examination and comparison of paint or other protective coating and fragments may reveal:

### Comparative Associations

- This analysis compares the physical and chemical properties of a questioned paint sample (e.g. paint chips at a crime scene) to known source (e.g. suspect vehicle, or tool suspected in a burglary) to see if there is a possibility of a common origin. The inherent value of the comparison becomes stronger as the inherent complexity of the paint sample increases (i.e. multiple layers, aftermarket repaint).

### Generation of Investigative Leads

- Chips left by a vehicle at a hit-and-run scene may produce information regarding the make, model, and year of manufacture. This can only be determined from OEM paint.

### Physical Fit

- That the paint chip from the scene came from a particular object or vehicle by a physical fit (i.e., the questioned paint chip edges fit like a piece of a jigsaw puzzle with edges of the damaged area).

## Collection

Ensure that all layers of paint are collected (e.g. with automotive paint, sample all the way to the metal substrate).

In all cases, the control samples should be taken from an undamaged area immediately adjacent to the area of damage or of interest.

If a physical match is possible, all paint from the damaged area should be collected or the item submitted in total.

At burglary scenes, control samples should be taken from an area immediately adjacent to the tool mark or damage.

## Packaging

- Paper-folds and plastic or paper envelopes can be used to collect the paint samples. Paper is preferred over plastic because of the static electricity buildup problems of plastic.
- Each of the recovered items must be packaged separately, properly labeled, and sealed. Seals must completely cover any openings and initials must run from on the evidence tape to off the tape onto the packaging.
- Indicate from where a sample was taken (i.e. ground near victim, exterior side of front door, damaged region of East wall of living room, etc.). If a vehicle is involved, labeling should include the make, model, year, and VIN. Also indicate from what part of the vehicle the sample was taken.
- Tools - Tools with paint smears must be protected to avoid loss or contamination of the questioned paint. The area containing the paint smear should be protected with soft tissue paper, and the tool packaged securely into an appropriate container (e.g., box).

### Submission

If submitting paint for comparisons, be sure to identify on the Request For Laboratory Examination form (RFLE) which items are the questioned samples and which samples are the known. Indicate in the Special Instructions section what comparisons should be performed.

If submitting paint for an investigative lead, please indicate on the RFLE that a make/model search is desired and from which items.

Contact the Crime Lab for any questions regarding collection or packaging.

Item/Material	Collection Methods (In Order of Preference)	Packaging	Additional Notes
Paint – Loose Chips	1. Picking	Place inside a white paper packet, inside a coin envelope (taped shut), inside a large paper envelope (sealed).	If paint chips are found on the ground, you can use a spatula to collect multiple paint chips.
Paint – On Tools	1. Intact Object	Place inside paper then secure inside a sealed box or other rigid container.	
Paint – On a Vehicle	<ol style="list-style-type: none"> <li>1. Intact Object</li> <li>2. Dismantled Object</li> <li>3. Cutting – Power</li> <li>4. Cutting – Manual</li> </ol>	<p>Intact Object – place inside paper bags or paper sealed inside a large box (e.g. skateboards, bikes).</p> <p>Dismantled Object – place inside a paper bag or paper sealed inside a large box (e.g. bike parts, side mirror). Alternatively, seal the region of interest with paper and evidence tape.</p> <p>Power Cutting – place inside a paper bag sealed inside a box.</p> <p>Manual Cutting - Place inside a white paper packet, inside a coin envelope (taped shut), inside a large paper envelope (sealed).</p>	<p>Typical Samples (one item may have two samples)</p> <ul style="list-style-type: none"> <li>• Questioned – scene chips, foreign paint on Victim’s vehicle, clothing</li> <li>• Known 1 – Suspect’s Vehicle, suspected panel(s) and/or part(s)</li> <li>• Known 2 – Victim’s Vehicle (near Questioned sample)</li> </ul> <p>Paint varies from car part to car part, be sure to sample enough areas on suspect vehicle to cover potential region that the paint could have originated from.</p> <p>Peeling paint on suspect vehicle may lead to physical match to questioned paint chips.</p>
Paint – On Clothing	1. Intact Object	Place inside a paper bag (sealed).	