

## When is it useful?

The universal use of paint as a decorative and protective coating means that the transfer of paint flakes and fragments can occur in a wide range of circumstances, often with other associated materials. It is expected with most particulate materials that any loosely adhering particles tend to be lost from clothing with the passage of time as a consequence of the activity of the wearer with the majority of any flakes transferred being lost over a few hours under normal circumstances.

Similarly, flakes loosely adhering to any item or implement are not expected to persist for very long if the item is in use. The number of paint flakes found and the location of these can be a useful means of indicating when the contact with the source of damaged paint occurred and the extent of contact in question.

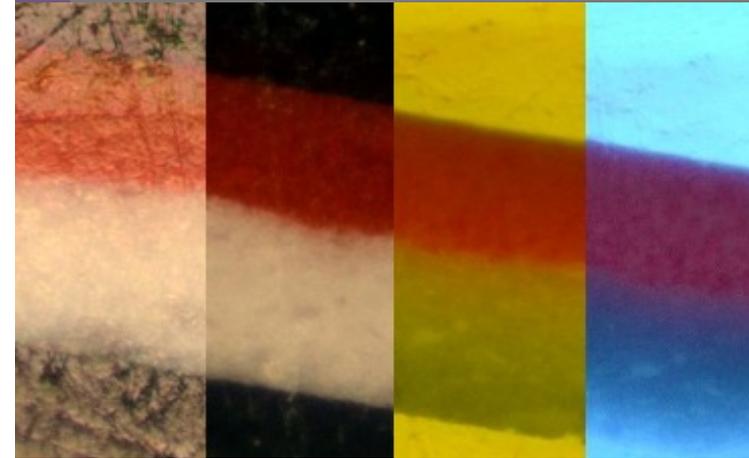


The presence of smears or impacted fragments of paint will be indicative of a forceful and direct contact. In addition, the presence of microscopic spray paint balls and drips/spots, which have dried in situ, can indicate the exposure to wet paint.

The transfer of paint flakes and associated particulate materials has the potential to provide significant and even conclusive evidence of association between suspects or items with an incident under investigation -- from a damaged window frame at the scene of a burglary to road traffic collisions, criminal damage and assaults.

IDENTIFICATION  
INTERPRETATION  
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## PAINT & PAINT PARTICULATES - enhancing scientific outcomes



Specialist expertise  
in recovering and  
analysing evidence

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## Introduction

Paint is applied to many surfaces and serves both as a protective and a decorative coating. If a dry painted surface is damaged small flakes and fragments of paint can be produced. These flakes and fragments can transfer to the clothing or footwear of a person causing the damage, or to someone who comes into contact with the paintwork subsequently.

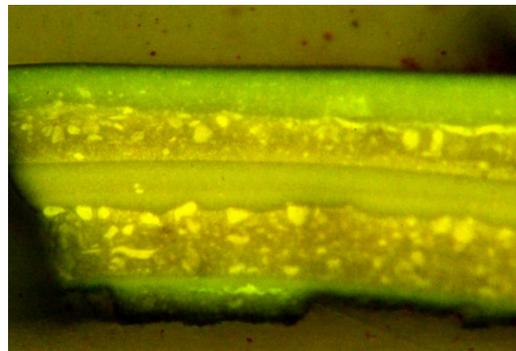
If an implement is used forcibly on a painted surface then paint can be transferred to the implement. If the tool is painted it can also be transferred from the tool to the scene. This can be in the form of loosely adhering fragments, as impacted flakes or as smears. In road traffic incidents paint is also transferred resulting from forceful impact.

Paint may be associated with other materials that produce small fragments when damaged. For example: plastic, wood, plaster, brick and mortar, metal and fillers. Thus, the presence of paint on such material may provide additional evidential significance.

# PAINT - potential for linking a suspect to the scene of a crime

Paint is available in a range of compositions designed for different end uses and is frequently applied in primer, undercoat and topcoat sequences. Also, due to its decorative properties, it is also available in a wide variety of colours and shades, with different colours requiring certain undercoat and primer systems for maximum effect, particularly when objects are coated during manufacture.

However, paint can also be applied over previous layers during the process of repair, maintenance or redecoration. Therefore, there is the potential for transferred paint to comprise many different layers whereby sequences of paint layers can be highly characteristic, if not unique.



Paint in the form of flakes, fragments, smears, spots and balls can be compared with the suspected origin of the paint using a range of microscopic, chemical and spectroscopic methods.

Moreover, using the same techniques, other particulate materials associated with the suspected paint can also be compared. The methods used are capable of discriminating between seemingly similar and widely available materials.



## Sampling

Obtain a control paint sample from as close as possible to all damaged areas. Sample right down to base wood or metal using a clean sharp instrument.

In cases where a tool mark has been cut from a window frame, this will be sufficient for the paint sample as well.

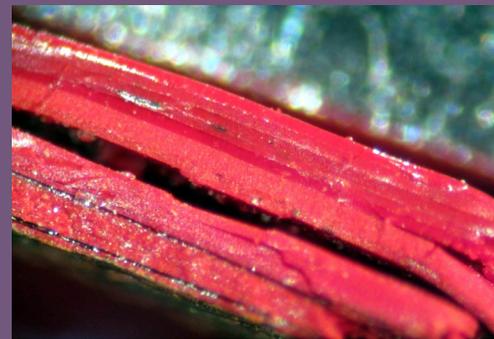
Transferred samples:

Painted object – Submit the whole object. When this is not possible, sample.

Vehicle paint – Sample down to bare metal.

Thrown or sprayed paint – Remove adequate sample from substrate, e.g. car, wall, etc.

Anti-climb paint – These are often not uniform in their composition. The sample must be taken from all areas of disturbance. Where possible, submit the paint-smear surface intact, however, be aware of potential fingerprint or shoe mark impressions.



## Storage

Fold each control sample into separate pieces of clean, pre-folded paper. Fold the paper as for medicinal powders. Secure flaps and place into envelope or polythene bag sealing all openings and seams.

Where the paint sample forms part of a tool mark examination, the exhibit should be protected accordingly.

Alternatively, submit each blade and a sample of the control inside a glass or plastic vial, contained in an evidence bag.

Transferred samples:

Collect samples from painted objects onto a pre-folded, clean piece of paper; fold the paper as for medicinal powders.

Secure flaps and place into envelope or polythene bag, sealing all openings and seams.

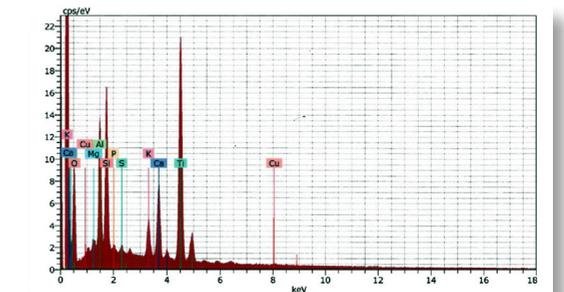
Alternatively submit each blade and a sample of control inside a glass or plastic vial, contained in an evidence bag.

Scrape wet paint into a polythene bag or glass vial.

Cellmark's skilled operatives have experience of recovering paint and particulate materials from a range of different items, including vehicles.

The smallest of particles found can be recovered and subjected to detailed microscopic examinations to consider the paint characteristics and any layer sequences.

Appropriate spectroscopic and chemical testing is also undertaken when applicable to compliment the highly discriminating microscopic methods used to compare these materials.



We have a highly skilled and experienced team of scientists carrying out examinations in a range of disciplines including paint examinations.

Our experience allows us to fully assess each case on its own merits and undertake cost effective examinations following a strategy designed to maximise the recovery of pertinent trace evidence.

The range of skills available allow the significance of the paint evidence to be considered in the context of other findings, such as tool marks, fibres or glass, and ensure robust, reliable results and assured interpretation of the findings in the context of each case.