

Did you know.....

The forensic analysis of glass can be utilised in a variety of different investigations and circumstances.

- Arson and vandalism investigation
- Insurance fraud investigation
- Burglary and theft
- RTA accidents,
- Murder and assault,
- Criminal damage and thefts of motor vehicles



When a pane of glass breaks, small fragments of glass are ejected backwards as well as forwards, typically for up to 2 or 3 metres. These fragments can land and become lodged in the tools, clothing and/or hair of the person breaking the window. So not only is it possible to identify if a suspect was present at the crime scene, you can even determine from which side a window was broken.

When glass fragments are examined by a suitably experienced forensic scientist it may be possible to distinguish between glass from different sources e.g. different windows and different types such as bottle and window glass.

Broken glass can also provide other crucial forms of evidence such as fingerprints, footwear marks, blood, hairs or fibres from clothing which have been caught on the sharp edge of the glass. Using our specialist skills we can analyse this evidence and help to uncover vital information.

As the manufacture of glass varies greatly, even tiny fragments, smaller than a pin head, can help forensic experts in their investigation of a crime scene. At First Forensic we keep abreast of the huge variety of glass types available and databases together with physical samples to demonstrate refractive indices.

The glass can be examined in a number of different ways:

- Physical Matching
- Refractive Index

- Scanning Electron Microscope (SEM)

During chemical analysis, materials used in the manufacture of the glass can be measured to distinguish between differing compositions. In addition, microscopic examination can show whether the glass is flat, patterned, laminated or curved glass - such as from drinking glasses or bottles. We can also test to identify toughened glass - such as that found in motor vehicles and some domestic and industrial door and window glazing.

In the case of a broken window, such as in a house burglary, broken glass on the suspect's clothing would be compared at a forensic science laboratory with glass from the broken window at the scene. However, these fragments are lost quite quickly – around half would normally be lost within 30 minutes, and almost all lost within 24 hours of normal activity.

The number of fragments transferred decreases rapidly with distance from the broken pane and the properties of the material on which the fragments land. For example, a wool jumper or sole of a shoe will hold fragments of glass for longer periods of time than a leather jacket - though fragments may be retained in pockets or cuffs for an almost indefinite period.