



Questioned Documents Section – 2007

J2 Ballpoint Pen Defect

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After attending this presentation, attendees will understand how manufacturing defects in ballpoint pens do exist; however, the incidence of these defects may be small. Applications may include the recognition of the cause of blobbing characteristics of an ink line and their association with a particular pen.

This presentation will impact the forensic community and/or humanity by assisting attendees to recognize this defect may be useful in associating ballpoint pen writing with a particular pen. This observation may also help to determine whether a document is altered based on defects in the ink lines.

A new ballpoint pen produced an unusual writing defect. The defect originated from malformed ball housing. Photographs illustrate the defect on the pen ball housing and samples of the repetitive defect on a handwriting sample. In the past it was assumed that defects were usually caused by dirt or debris on the ball housing. This case is an example of a manufacturing defect of the ballpoint pen housing.

Forensic document examiners (FDEs) observe the morphology of an ink line and use it as an element of consideration in the comparison between questioned and known writings. FDEs need to understand the origin and significance of anomalies in the ink line on paper. FDEs like Brunelle (2003) have described the phenomenon of defects like gooping and striations. A ballpoint pen includes the point assembly which consists of the ball housing and the ball as defined by Brunelle (1984). This assembly deposits viscose ink on paper. Deviations of the shape of the ball housing may produce ballpoint pen defects that can be observed in the ink line on paper. Observations of defects in an ink line have been discussed by Hueng and Leung (1985) and Lewis (2003). This paper illustrates the origin of a particular ballpoint pen defect in a new pen.

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