

Marble Slurry Powder are Using Visualization on Latent Fingerprints on Different Surfaces



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Abstract

Marble industry produces large amount of marble slurry. Home flooring & furniture processing stages are also produces slurry. This waste is dumped on the open land creates a lots of environmental problem so the use of this waste marble slurry powdered to developed latent fingerprints & solved crime. This waste powder is easily available on the construction site and use as a latent fingerprint development powder. This Study presents a new marble slurry powdering method which is simple for the development of latent fingerprints on Porous or nonporous surfaces. Ten Samples are successfully developed and collected to the different porous & non porous Surfaces i.e. Paper, Plywood, Plastic box, Nonporous plastic surface, Nonporous wooden surface, Iron, nonstick utensil, leather, Umbrella nonporous cloth, Stainless steel. The fine particles of marble slurry Powder get combined with the fatty acid & oil present in the sweat of a fingerprint and latent fingerprint pattern can be clearly observed on the surface by using marble slurry powder. Studies shows that it gives perfect results on most of the surfaces with clear fingerprints pattern and ridges.

Keywords: Fingerprint; Marble slurry; Powder; Developed; Surfaces

Introduction

The superficial layer of human skin is protected with various natural substances secreted from the eccrine, apocrine and sebaceous glands. The main excretion from these glands is water; though, equally inorganic and organic materials are also secreted. It is these excretions that form the basis of much of the material left in a latent fingerprint. Dermatoglyphics is the division of Forensic Science dealing with the analysis of skin ridge imprints, but mostly latent fingerprints, for the determination of identifying the persons. At this time the majority of the methods developing to examine latent fingerprints, such as sprinkling with powders or fuming cyanoacrylates, needs that a chemical or bonding agent response takes place among the materials present in the fingerprint and the applied component [1]. Fingerprint examination has been a keystone of forensic examination for well over 100 years. Such is the faith in fingerprint evidence that it is hardly questioned by the community and jurisdictional organization. Indeed, in the vast common of cases, latent print examiners' findings and conclusions are unchallenged and established at face value.

Several persons arrested and conviction as a result of fingerprint evidence will frequently admit to crimes based only on the information a fingerprint matching established. Various arrestees feel under intense burden to admit [2]. so the presence

of forensic intelligence only works to increase that pressure. The authority of fingerprint discipline and the faith located in the evidence is established on the biological uniqueness of friction ridge skin and the procedure of fingerprint identification that is considered to produce accurate similar with zero error rates [3]. Though many methods are recognized for a specific forensic assessment, particular examines need to re-examination and advance study for two main reasons. First, there is the requirement to progress methods to decrease the period consumed in performance an examination, and, second, developments in methodical procedures are necessary for providing additional consistent, unambiguous results. Developing new systematic methods and leading authentication studies promise that the maximum dependable forensic evidence will be arrived into the justice system [4]. The detection of latent evidence at a crime scene is a challenge to crime scene detectives. Such latent physical evidence can frequently give appreciate evidence in relation to the reconstruction of the scene. Later, a technical, systematic and methodical program must be set up for evidence investigation to prevent loss of probable evidence [5].

Material and Method

Ten Samples are developed and collected to the different porous & non porous Surfaces i.e. Paper, Plywood, Plastic box,

Nonporous plastic surface, Nonporous wooden surface, Iron, nonstick utensil, leather, Umbrella nonporous cloth, Stainless steel. These technique used in the development of invisible fingerprint is the used of waste marble slurry was found in many constructions sites in the liquid form but dry marble slurry is powder formed and the rub by hand this slurry was minute particle dust are found. Developed the latent fingerprints with the help of marble slurry powder. The dust has very fine particle to put on the suspected area & used camel hair brush o develop the invisible fingerprint sample. Photograph was taken and lift the cellophane tape and put on the different contrast area and fingerprint pattern seen and identified the print & preserved the powder sample [6]. The consuming prints smudges the print, hence the ridge characteristics are not clearly visible. Application of marble slurry dust to the pattern by using brush is a simple and an informal method then it also has drawbacks that the brush on coming in interaction with the surface consuming the print abolishes the print and hence the ridge characteristics get demolished [7].

Result and Discussions

This research study shows twelve samples of invisible fingerprints which are positively developed in various porous or nonporous surfaces in the help of marble slurry dust. Pattern and ridge characteristics are clearly observable and easily identified the fingerprint pattern and their ridge features can be seen in Figures 1-10. Identified & Examination of invisible fingerprints patterns can be positively developed with marble slurry dust. The relative approximation of different area this marble slurry dust discloses that it provides well results on contrast surfaces rather than the others powders examine. This research study, based on the invisible fingerprint, is a physical technique based on the adherence of fingerprint powder (dust) attached with fatty acid & oily component present on the sweat are deposit on the fingerprints and ridges. The Developed successful results of these ten samples i.e. Paper, Plywood, Plastic box, Porous Plastic Surface, Porous wooden Surface, Iron, Nonstick Utensil, Leather, Porous Umbrella cloth, Stainless Steel are given below.



Figure 1: Development of Latent Fingerprints on Nonporous Leather Surface.



Figure 2: Development of Latent Fingerprints on Nonporous Stainless Steel Surface.

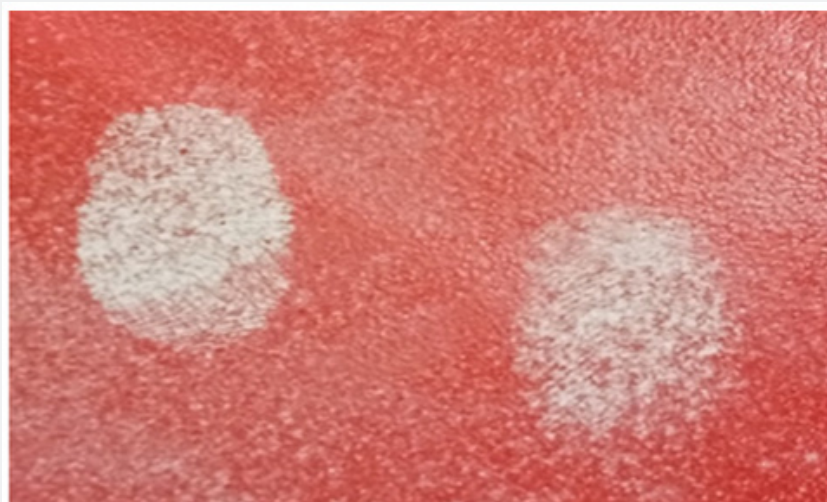


Figure 3: Development of Latent Fingerprints on Porous Plastic Surface.



Figure 4: Development of Latent Fingerprints on Porous Umbrella Cloth.



Figure 5: Development of Latent Fingerprints on Porous Wooden Surfaces.



Figure 6: Development of latent fingerprints on nonporous Plastic box surfaces.

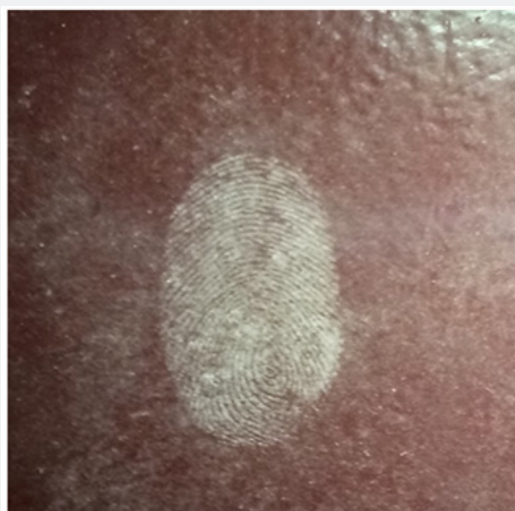


Figure 7: Development of Latent Fingerprints On Porous Iron Surfaces.

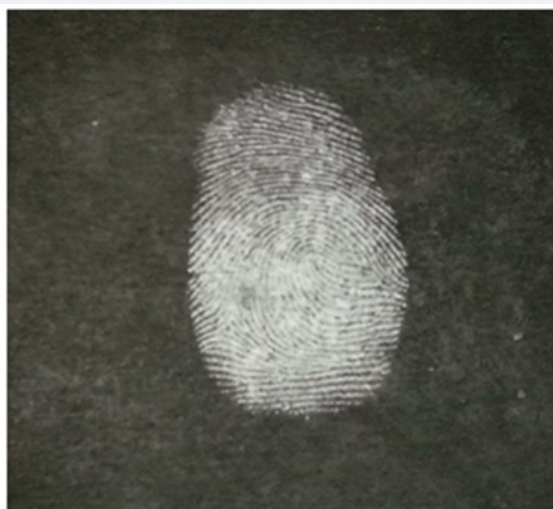


Figure 8: Development of Latent Fingerprints on Porous Paper Surfaces.

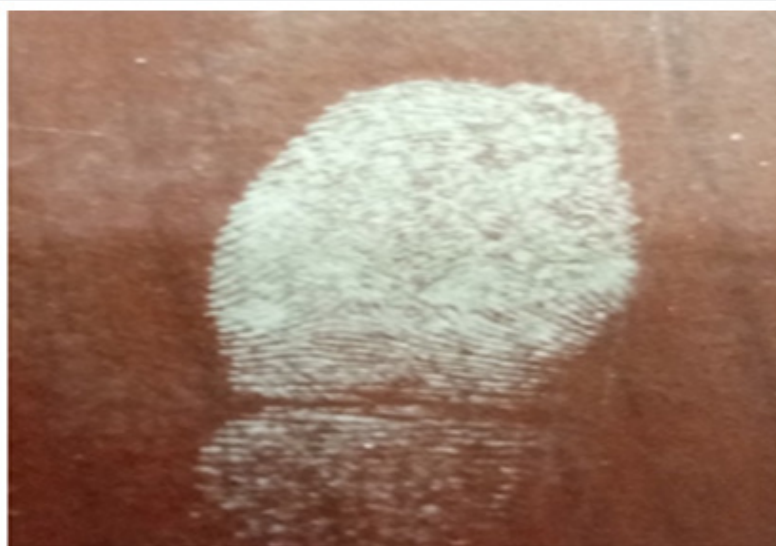


Figure 9: Development of Latent Fingerprints on Nonporous Plywood Surfaces.



Figure 10: Development of Latent Fingerprints on Nonporous nonstick Utensil Surfaces.

Conclusion

Marble slurry dust are waste materials which are mixed with soil and effect on fertilizing so we use this for developing latent fingerprint. Waste slurry are found in many constructions sites as a waste discard materials which is used in solving a crime in the development latent fingerprint in the crime scene. If crime is committed near construction sites and investigating officer don't have latent fingerprint developing powder so marble slurry dust can be used to develop latent fingerprint and solving a major crime scene. Using the marble slurry Powder is result are developed on various surfaces to during crime investigations. The marble slurry dust can provide a good supernumerary

powder for fingerprint identification in comparison of commercially available chemical powders. This type of work has not been reported previously and can provide useful information to the investigators in cases of shortage or non-availability of systematic conventional fingerprint development powders.

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