

New Restoration Reagent for Development of Erased Serial Number on Copper Metal Surface

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Abstract : A serial number is a unique code assigned for identification of a single unit. Serial number are present on many objects. In an attempt to hide the identity of the numbered item, the numbers are often obliterated or removed by mechanical methods. The present work was carried out with an objective to develop less toxic, less time consuming, more result oriented chemical etching reagent for restoration of serial number on the copper metal plate. Around nine different reagents were prepared using different combination of reagent along with standard reagent and it was applied over 50 erased samples of copper metal and compared it with the standard reagent for restoration of erased marks. After experiment, it was found that the prepared Etching reagent no. 3 (10 g FeCl₃ + 20 ml glacial acetic acid + 100 ml distilled H₂O) showed the best result for restoration of erased serial number on the copper metal plate. The reagent was also less toxic and less time consuming as compared to standard reagent (19 g FeCl₃ + 6 ml conc. HCl + 100 ml distilled H₂O).

Keywords : serial number restoration, copper plate, obliteration, chemical method

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