

THE TECHNOLOGY OF FORENSIC EXAMINATION OF BURNED COPPER CORD

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Abstract: Technical forensics is a very broad scientific field. This paper reports one of its aspects, which refer to the testing of electrical conductors following a fire in order to identify the real cause of its appearance, namely providing information whether or not the electric cord damage caused the fire and to offer contribution to the authorities. For this purpose, sectional tests of copper electric cord were conducted using microstructure optical microscope as well as X-ray diffraction analysis. The sample preparation process has been also described. The interpretation of the obtained results with the adopted conclusions based on the above-mentioned tests was presented. Based on these analyses, it was concluded that there was a local melting of the conductors influenced by high temperatures achieved in oxygen atmosphere, and that melting was apparent within all samples.

Keywords: forensics, optical microscopy, X-ray diffraction analysis.

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