

Title of the Paper

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ABSTRACT

The matter included in this template file is only for understanding the type of fonts and the style of formatting in the different sections to be used for preparing the full length paper (manuscript), as per which the full length paper must be submitted for consideration in International Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering. The citations and the other matter do not belong to the organizing team or to the Society of Materials and Mechanical Engineers. The addition of ceramic reinforcements such as carbides and oxides to form metal matrix composites enhances the properties such as strength, wear resistance, and high-temperature durability. In this study, composite tool electrodes were prepared to investigate their performance in electrical discharge machining (EDM) process. Experiments were performed by using these tools on an EDM with selected input parameters on AISI D3 die steel work piece. The microstructures of the machined surfaces and tool electrodes were analyzed by using a scanning electron microscope (SEM). Microstructure analysis reveals the presence of micro-holes and cavities on the machined surfaces. Depth of re-solidified layer increases with the increase of gap current due to deposition of material from tool electrode to the work-piece surface during machining.

Keywords: *Electrical Discharge Machining, Composite Tool, Microstructure, Scanning Electron Microscope.*