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Surface Morphology of Die-Steel Machined with Al Powder Mixed Distilled Water and Kerosene in Edm – A Comparison

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Abstract:In this paper, an attempt has been made to compare the effect of Al powder mixed distilled water and kerosene dielectric fluids with respect to white-layer thickness (WLT) and surface morphology. The work and tool electrode materials used are W300 die-steel and electrolytic copper respectively. Pulse peak current, pulse on-time and concentration of Al powder are taken as the process parameters to study white-layer thickness. The experiments are planned using face centred central composite design procedure (FCCCD). From the experimental results it is found that, better surface morphology obtained at 4 g/l of Al in kerosene at high peak current of 18 A.

Keywords:PMEDM, Distilled water, Kerosene, Al powder, W300 die-steel, SEM.

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