

Influence of Energy Parameters of Micro WEDM on Kerf

This paper presents the estimation of kerf width in micro wire electrical discharge machining (micro WEDM) in terms of machining parameters of capacitance and gap voltage. An empirical model is developed by the analysis of variance (ANOVA) of experimental data. Using a wire electrode of 70 μm diameter, a minimum kerf width is found to be 92 μm for the micro WEDM parameters of 0.01 μF capacitance and 90.25 V gap voltage. Around 30% increment of the kerf is found to be high. The analysis also revealed that the capacitance is more influential parameter than gap voltage on kerf width produced by micro WEDM. As the gap voltage determines the breakdown distance and affects the wire vibration, the wire vibration factor is to be considered in the analysis and in formulation of model in future study.