

Optimal Set-Up and Surface Finish Characteristics In Electrical Discharge Machining on Ti-5Al-2.5Sn Using Graphite

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ABSTRACT

In electrical discharge machining (EDM) process which is an advance and non-conventional technique, the selection of machining parameters for achieving high machining performance is an important; however, very problematic task. In the current manuscript it was aimed to ascertain optimal machining set-up of EDM process related with fine surface finish. The die-sinking EDM was carried out using the both polarities (positive and negative) of graphite electrode. The microstructure of the workpiece surface was investigated by scanning electronic microscopy. The negative polarity produces, on average, nearly double surface roughness than that with positive polarity. The surface microstructure is deteriorated as the discharge energy level increases for both polarities.

KEYWORDS: Roughness; Optimal set-up; Surface topography; Graphite; Polarity

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