ABSTRACT

Materials such as tool steel, ceramic, metal matrix composite, and Inconel are used widely in die molding, aerospace, surgical and automotive industries. Machining of these materials by using traditional machining is difficult due to high wear and corrosion resistance, hardness, and toughness properties of them. Wire Electrical Discharge Machining (WEDM) is a nontraditional method which is used most to machining of difficult-to-machine materials. The metal-matrix composites are preferred due to their high hardness, light weight, flexibility, high strength, simplicity, and ease of applicability which make them potentially valuable in every industrious area like motor vehicles industries, mechanical tools manufacturing industries, structural applications and aerospace industries. Electrical Discharge Machining is a non-conventional machining process which uses short electrical discharges to machine any material of any hardness and strength levels if they are electrically conductive. During this investigation experimentally identified medium pulse on, lower pulse off and medium current rating obtained minimum surface roughness, and exact kerf width has obtained value of 2.996 mm through pulse on – 28 µs T OFF – 40 µs Amps-2 during the wire cutting process.