ABSTRACT

The aim of the research work was to investigate the machinability of hybrid aluminum metal matrix composite & normal AA6063 using EDM. Analysis were done to investigate the effects of the process parameters viz. pulse on time (Ton), pulse off-time (Toff) & current and concentration of the constant dielectric pressure (C) and its effects on material removal rate (MRR), surface roughness (Ra), and process parameters were optimized for high MRR, low and Ra and machining timing. This experimental study shows that minimum surface finish was obtained at 3.126 μm with higher rating of pulse on, pulse off time and ampere rating. But same parameter was achieved for Al metal matrix fine finish was obtained. Machining time for the same depth of machining the metal matrix were consumed much more time. According to the MRR Al6063 more than metal matrix due to materiel hardness composite material takes more time.

Keyword; AL6063, Boron Carbide, MRR, RA, TOFF, Hardness and Liquid Cast metal technology